



SEQUENCE LISTING

<110> Foster, Donald C.
Xu, Wenfeng
Madden, Karen L.
Kelly, James D.
Sprecher, Cindy A.
Brandt, Cameron S.
Rixon, Mark W.
Presnell, Scott R.
Fox, Brian A.

<120> Soluble Interleukin-20 Receptor

<130> 99-107

<150> 60/171,966

<151> 1999-12-23

<150> 60/213,416

<151> 2000-06-22

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<212> PRT

<213> Homo sapiens

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			20					25					30		
Cys	Val	Ile	Ala	Thr	Asn	Leu	Gln	Glu	Ile	Arg	Asn	Gly	Phe	Ser	Asp
			35				40					45			
Ile	Arg	Gly	Ser	Val	Gln	Ala	Lys	Asp	Gly	Asn	Ile	Asp	Ile	Arg	Ile
	50					55				60					
Leu	Arg	Arg	Thr	Glu	Ser	Leu	Gln	Asp	Thr	Lys	Pro	Ala	Asn	Arg	Cys
65					70					75					80

Cys	Leu	Leu	Arg	His	Leu	Leu	Arg	Leu	Tyr	Leu	Asp	Arg	Val	Phe	Lys
				85					90					95	
Asn	Tyr	Gln	Thr	Pro	Asp	His	Tyr	Thr	Leu	Arg	Lys	Ile	Ser	Ser	Leu
			100					105					110		
Ala	Asn	Ser	Phe	Leu	Thr	Ile	Lys	Lys	Asp	Leu	Arg	Leu	Cys	His	Ala
		115					120					125			
His	Met	Thr	Cys	His	Cys	Gly	Glu	Glu	Ala	Met	Lys	Lys	Tyr	Ser	Gln
	130					135				140					
Ile	Leu	Ser	His	Phe	Glu	Lys	Leu	Glu	Pro	Gln	Ala	Ala	Val	Val	Lys
145					150				155						160
Ala	Leu	Gly	Glu	Leu	Asp	Ile	Leu	Leu	Gln	Trp	Met	Glu	Glu	Thr	Glu
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<210> 2
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<400> 2															
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Glu	Ile	Arg	Asn	Gly	Phe	Ser	Asp	Ile	Arg	Gly	Ser	Val	Gln	Ala	Lys
			20					25					30		
Asp	Gly	Asn	Ile	Asp	Ile	Arg	Ile	Leu	Arg	Arg	Thr	Glu	Ser	Leu	Gln
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Asp	Thr	Lys	Pro	Ala	Asn	Arg	Cys	Cys	Leu	Leu	Arg	His	Leu	Leu	Arg
	50					55					60				
Leu	Tyr	Leu	Asp	Arg	Val	Phe	Lys	Asn	Tyr	Gln	Thr	Pro	Asp	His	Tyr
65				70					75					80	
Thr	Leu	Arg	Lys	Ile	Ser	Ser	Leu	Ala	Asn	Ser	Phe	Leu	Thr	Ile	Lys
				85					90					95	
Lys	Asp	Leu	Arg	Leu	Cys	His	Ala	His	Met	Thr	Cys	His	Cys	Gly	Glu
			100					105					110		
Glu	Ala	Met	Lys	Lys	Tyr	Ser	Gln	Ile	Leu	Ser	His	Phe	Glu	Lys	Leu
	115						120					125			
Glu	Pro	Gln	Ala	Ala	Val	Val	Lys	Ala	Leu	Gly	Glu	Leu	Asp	Ile	Leu
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Leu	Gln	Trp	Met	Glu	Glu	Thr	Glu								
145					150										

<210> 3
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<213> Homo sapiens

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Met	Lys	Ala	Ser	Ser	Leu	Ala	Phe	Ser	Leu	Leu	Ser	Ala	Ala	Phe	Tyr
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Leu	Leu	Trp	Thr	Pro	Ser	Thr	Gly	Leu	Lys	Thr	Leu	Asn	Leu	Gly	Ser
			20					25					30		
Cys	Val	Ile	Ala	Thr	Asn	Leu	Gln	Glu	Ile	Arg	Asn	Gly	Phe	Ser	Asp
		35					40					45			
Ile	Arg	Gly	Ser	Val	Gln	Ala	Lys	Asp	Gly	Asn	Ile	Asp	Ile	Arg	Ile
	50					55					60				
Leu	Arg	Arg	Thr	Glu	Ser	Leu	Gln	Asp	Thr	Lys	Pro	Ala	Asn	Arg	Cys
65					70					75				80	
Cys	Leu	Leu	Arg	His	Leu	Leu	Arg	Leu	Tyr	Leu	Asp	Arg	Val	Phe	Lys
				85					90					95	
Asn	Tyr	Gln	Thr	Pro	Asp	His	Tyr	Thr	Leu	Arg	Lys	Ile	Ser	Ser	Leu
			100					105					110		
Ala	Asn	Ser	Phe	Leu	Thr	Ile	Lys	Lys	Asp	Leu	Arg	Leu	Cys	Leu	Glu
		115					120					125			
Pro	Gln	Ala	Ala	Val	Val	Lys	Ala	Leu	Gly	Glu	Leu	Asp	Ile	Leu	Leu
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Gln	Trp	Met	Glu	Glu	Thr	Glu									
145					150										

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<212> PRT

<213> Homo sapiens

<400> 4

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			20					25					30		
Asp	Gly	Asn	Ile	Asp	Ile	Arg	Ile	Leu	Arg	Arg	Thr	Glu	Ser	Leu	Gln
		35					40					45			
Asp	Thr	Lys	Pro	Ala	Asn	Arg	Cys	Cys	Leu	Leu	Arg	His	Leu	Leu	Arg
	50					55					60				
Leu	Tyr	Leu	Asp	Arg	Val	Phe	Lys	Asn	Tyr	Gln	Thr	Pro	Asp	His	Tyr
65					70					75				80	
Thr	Leu	Arg	Lys	Ile	Ser	Ser	Leu	Ala	Asn	Ser	Phe	Leu	Thr	Ile	Lys
				85					90					95	

Lys	Asp	Leu	Arg	Leu	Cys	Leu	Glu	Pro	Gln	Ala	Ala	Val	Val	Lys	Ala
			100					105					110		
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		115					120					125			

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 <212> PRT
 <213> Mus musculus

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			20				25						30		
Cys	Val	Ile	Thr	Ala	Asn	Leu	Gln	Ala	Ile	Gln	Lys	Glu	Phe	Ser	Glu
		35				40					45				
Ile	Arg	Asp	Ser	Val	Gln	Ala	Glu	Asp	Thr	Asn	Ile	Asp	Ile	Arg	Ile
	50				55					60					
Leu	Arg	Thr	Thr	Glu	Ser	Leu	Lys	Asp	Ile	Lys	Ser	Leu	Asp	Arg	Cys
65				70						75				80	
Cys	Phe	Leu	Arg	His	Leu	Val	Arg	Phe	Tyr	Leu	Asp	Arg	Val	Phe	Lys
			85					90					95		
Val	Tyr	Gln	Thr	Pro	Asp	His	His	Thr	Leu	Arg	Lys	Ile	Ser	Ser	Leu
			100					105					110		
Ala	Asn	Ser	Phe	Leu	Ile	Ile	Lys	Lys	Asp	Leu	Ser	Val	Cys	His	Ser
		115				120						125			
His	Met	Ala	Cys	His	Cys	Gly	Glu	Glu	Ala	Met	Glu	Lys	Tyr	Asn	Gln
	130				135					140					
Ile	Leu	Ser	His	Phe	Ile	Glu	Leu	Glu	Leu	Gln	Ala	Ala	Val	Val	Lys
145				150						155				160	
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 <213> Mus musculus

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Ala	Ile	Gln	Lys	Glu	Phe	Ser	Glu	Ile	Arg	Asp	Ser	Val	Gln	Ala	Glu
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Asp	Thr	Asn	Ile	Asp	Ile	Arg	Ile	Leu	Arg	Thr	Thr	Glu	Ser	Leu	Lys
	35					40					45				
Asp	Ile	Lys	Ser	Leu	Asp	Arg	Cys	Cys	Phe	Leu	Arg	His	Leu	Val	Arg
	50				55				60						
Phe	Tyr	Leu	Asp	Arg	Val	Phe	Lys	Val	Tyr	Gln	Thr	Pro	Asp	His	His
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Thr	Leu	Arg	Lys	Ile	Ser	Ser	Leu	Ala	Asn	Ser	Phe	Leu	Ile	Ile	Lys
			85					90					95		
Lys	Asp	Leu	Ser	Val	Cys	His	Ser	His	Met	Ala	Cys	His	Cys	Gly	Glu
	100						105					110			
Glu	Ala	Met	Glu	Lys	Tyr	Asn	Gln	Ile	Leu	Ser	His	Phe	Ile	Glu	Leu
	115					120					125				
Glu	Leu	Gln	Ala	Ala	Val	Val	Lys	Ala	Leu	Gly	Glu	Leu	Gly	Ile	Leu
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<212> PRT

<213> Mus musculus

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Leu	Arg	Thr	Thr	Glu	Ser	Leu	Lys	Asp	Ile	Lys	Ser	Leu	Asp	Arg	Cys
	35					40					45				
Cys	Phe	Leu	Arg	His	Leu	Val	Arg	Phe	Tyr	Leu	Asp	Arg	Val	Phe	Lys
	50				55				60						
Val	Tyr	Gln	Thr	Pro	Asp	His	His	Thr	Leu	Arg	Lys	Ile	Ser	Ser	Leu
65				70				75						80	
Ala	Asn	Ser	Phe	Leu	Ile	Ile	Lys	Lys	Asp	Leu	Ser	Val	Cys	His	Ser
			85					90					95		
His	Met	Ala	Cys	His	Cys	Gly	Glu	Glu	Ala	Met	Glu	Lys	Tyr	Asn	Gln
	100					105					110				
Ile	Leu	Ser	His	Phe	Ile	Glu	Leu	Glu	Leu	Gln	Ala	Ala	Val	Val	Lys
	115					120					125				
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 Cys Val Ile Thr Ala Asn Leu Gln Ala Ile Gln Lys Glu Phe Ser Glu
 35 40 45
 Ile Arg Asp Ser Val Ser Leu Asp Arg Cys Cys Phe Leu Arg His Leu
 50 55 60
 Val Arg Phe Tyr Leu Asp Arg Val Phe Lys Val Tyr Gln Thr Pro Asp
 65 70 75 80
 His His Thr Leu Arg Lys Ile Ser Ser Leu Ala Asn Ser Phe Leu Ile
 85 90 95
 Ile Lys Lys Asp Leu Ser Val Cys His Ser His Met Ala Cys His Cys
 100 105 110
 Gly Glu Glu Ala Met Glu Lys Tyr Asn Gln Ile Leu Ser His Phe Ile
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 Ile Leu Leu Arg Trp Met Glu Glu Met Leu
 145 150

<210> 9
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 <213> Homo sapiens

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 Arg Cys Cys Phe Leu Arg His Leu Val Arg Phe Tyr Leu Asp Arg Val
 35 40 45
 Phe Lys Val Tyr Gln Thr Pro Asp His His Thr Leu Arg Lys Ile Ser
 50 55 60

Ser Leu Ala Asn Ser Phe Leu Ile Ile Lys Lys Asp Leu Ser Val Cys
 65 70 75 80
 His Ser His Met Ala Cys His Cys Gly Glu Glu Ala Met Glu Lys Tyr
 85 90 95
 Asn Gln Ile Leu Ser His Phe Ile Glu Leu Glu Leu Gln Ala Ala Val
 100 105 110
 Val Lys Ala Leu Gly Glu Leu Gly Ile Leu Leu Arg Trp Met Glu Glu
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 Met Leu
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<210> 10
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 <212> DNA
 <213> Homo sapiens

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 gcgtggcacg cagagcccca ggcgcggagc tgaggccgcg cggccgcgct tggccccagc 180
 gggcgtggga ctgagcagtc tgctgcccc cgacatgtga cccagcccc cgcgcc atg 239
 Met
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cgg gct ccc ggc cgc ccg gcc ctg cgg ccg ctg ccg ctg ccg ccg ctg 287
 Arg Ala Pro Gly Arg Pro Ala Leu Arg Pro Leu Pro Leu Pro Pro Leu
 5 10 15

ctg ctg ttg ctc ctg gcg gcg cct tgg gga cgg gca gtt ccc tgt gtc 335
 Leu Leu Leu Leu Leu Ala Ala Pro Trp Gly Arg Ala Val Pro Cys Val
 20 25 30

tct ggt ggt ttg cct aaa cct gca aac atc acc ttc tta tcc atc aac 383
 Ser Gly Gly Leu Pro Lys Pro Ala Asn Ile Thr Phe Leu Ser Ile Asn
 35 40 45

atg aag aat gtc cta caa tgg act cca cca gag ggt ctt caa gga gtt 431
 Met Lys Asn Val Leu Gln Trp Thr Pro Pro Glu Gly Leu Gln Gly Val
 50 55 60 65

aaa gtt act tac act gtg cag tat ttc ata tat ggg caa aag aaa tgg	479
Lys Val Thr Tyr Thr Val Gln Tyr Phe Ile Tyr Gly Gln Lys Lys Trp	
70 75 80	
ctg aat aaa tca gaa tgc aga aat atc aat aga acc tac tgt gat ctt	527
Leu Asn Lys Ser Glu Cys Arg Asn Ile Asn Arg Thr Tyr Cys Asp Leu	
85 90 95	
tct gct gaa act tct gac tac gaa cac cag tat tat gcc aaa gtt aag	575
Ser Ala Glu Thr Ser Asp Tyr Glu His Gln Tyr Tyr Ala Lys Val Lys	
100 105 110	
gcc att tgg gga aca aag tgt tcc aaa tgg gct gaa agt gga cgg ttc	623
Ala Ile Trp Gly Thr Lys Cys Ser Lys Trp Ala Glu Ser Gly Arg Phe	
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tat cct ttt tta gaa aca caa att ggc cca cca gag gtg gca ctg act	671
Tyr Pro Phe Leu Glu Thr Gln Ile Gly Pro Pro Glu Val Ala Leu Thr	
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Thr Asp Glu Lys Ser Ile Ser Val Val Leu Thr Ala Pro Glu Lys Trp	
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Lys Arg Asn Pro Glu Asp Leu Pro Val Ser Met Gln Gln Ile Tyr Ser	
165 170 175	
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Asn Leu Lys Tyr Asn Val Ser Val Leu Asn Thr Lys Ser Asn Arg Thr	
180 185 190	
tgg tcc cag tgt gtg acc aac cac acg ctg gtg ctc acc tgg ctg gag	863
Trp Ser Gln Cys Val Thr Asn His Thr Leu Val Leu Thr Trp Leu Glu	
195 200 205	
ccg aac act ctt tac tgc gta cac gtg gag tcc ttc gtc cca ggg ccc	911
Pro Asn Thr Leu Tyr Cys Val His Val Glu Ser Phe Val Pro Gly Pro	
210 215 220 225	
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Asp	Gln	Ser	Ser	Glu	Phe	Lys	Ala	Lys	Ile	Ile	Phe	Trp	Tyr	Val	Leu	
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Pro	Ile	Ser	Ile	Thr	Val	Phe	Leu	Phe	Ser	Val	Met	Gly	Tyr	Ser	Ile	
		260					265					270				
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Tyr	Arg	Tyr	Ile	His	Val	Gly	Lys	Glu	Lys	His	Pro	Ala	Asn	Leu	Ile	
	275					280					285					
ttg	att	tat	gga	aat	gaa	ttt	gac	aaa	aga	ttc	ttt	gtg	cct	gct	gaa	1151
Leu	Ile	Tyr	Gly	Asn	Glu	Phe	Asp	Lys	Arg	Phe	Phe	Val	Pro	Ala	Glu	
290					295				300						305	
aaa	atc	gtg	att	aac	ttt	atc	acc	ctc	aat	atc	tcg	gat	gat	tct	aaa	1199
Lys	Ile	Val	Ile	Asn	Phe	Ile	Thr	Leu	Asn	Ile	Ser	Asp	Asp	Ser	Lys	
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att	tct	cat	cag	gat	atg	agt	tta	ctg	gga	aaa	agc	agt	gat	gta	tcc	1247
Ile	Ser	His	Gln	Asp	Met	Ser	Leu	Leu	Gly	Lys	Ser	Ser	Asp	Val	Ser	
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Ser	Leu	Asn	Asp	Pro	Gln	Pro	Ser	Gly	Asn	Leu	Arg	Pro	Pro	Gln	Glu	
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Glu	Glu	Glu	Val	Lys	His	Leu	Gly	Tyr	Ala	Ser	His	Leu	Met	Glu	Ile	
	355					360					365					
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Phe	Cys	Asp	Ser	Glu	Glu	Asn	Thr	Glu	Gly	Thr	Ser	Phe	Thr	Gln	Gln	
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gag	tcc	ctc	agc	aga	aca	ata	ccc	ccg	gat	aaa	aca	gtc	att	gaa	tat	1439
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Glu Tyr Asp Val Arg Thr Thr Asp Ile Cys Ala Gly Pro Glu Glu Gln	
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Glu Leu Ser Leu Gln Glu Glu Val Ser Thr Gln Gly Thr Leu Leu Glu	
420 425 430	
tcg cag gca gcg ttg gca gtc ttg ggc ccg caa acg tta cag tac tca	1583
Ser Gln Ala Ala Leu Ala Val Leu Gly Pro Gln Thr Leu Gln Tyr Ser	
435 440 445	
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Tyr Thr Pro Gln Leu Gln Asp Leu Asp Pro Leu Ala Gln Glu His Thr	
450 455 460 465	
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Asp Ser Glu Glu Gly Pro Glu Glu Glu Pro Ser Thr Thr Leu Val Asp	
470 475 480	
tgg gat ccc caa act ggc agg ctg tgt att cct tcg ctg tcc agc ttc	1727
Trp Asp Pro Gln Thr Gly Arg Leu Cys Ile Pro Ser Leu Ser Ser Phe	
485 490 495	
gac cag gat tca gag ggc tgc gag cct tct gag ggg gat ggg ctc gga	1775
Asp Gln Asp Ser Glu Gly Cys Glu Pro Ser Glu Gly Asp Gly Leu Gly	
500 505 510	
gag gag ggt ctt cta tct aga ctc tat gag gag ccg gct cca gac agg	1823
Glu Glu Gly Leu Leu Ser Arg Leu Tyr Glu Glu Pro Ala Pro Asp Arg	
515 520 525	
cca cca gga gaa aat gaa acc tat ctc atg caa ttc atg gag gaa tgg	1871
Pro Pro Gly Glu Asn Glu Thr Tyr Leu Met Gln Phe Met Glu Glu Trp	
530 535 540 545	
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Gly Leu Tyr Val Gln Met Glu Asn	
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gatatgaccc atatttcctt attgatatta ttggtacagg cagacaaccc tggtaggaga 3245
gatggattct ggggtcatga cctttcgtga ttatccgcaa atgcaaacag tttcagatct 3305
aatggtttta tttagggagt aattatatta atcagagtgt tctgttattc tcaatcttta 3365
tagaaacgat tctgctggtt ttgaagaaca gatgtattac actaactgta aaagtagttc 3425
aagagtgaga aagaataaat tgttattaag agcaaaaagaa aaataaagtg attgatgata 3485
aaaaaaaaa aaaaaaagcg gccgcctcga g 3516

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<210> 11
 <211> 553
 <212> PRT
 <213> Homo sapiens

<400> 11

Met	Arg	Ala	Pro	Gly	Arg	Pro	Ala	Leu	Arg	Pro	Leu	Pro	Leu	Pro	Pro
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			20					25					30		
Val	Ser	Gly	Gly	Leu	Pro	Lys	Pro	Ala	Asn	Ile	Thr	Phe	Leu	Ser	Ile
		35				40					45				
Asn	Met	Lys	Asn	Val	Leu	Gln	Trp	Thr	Pro	Pro	Glu	Gly	Leu	Gln	Gly
50					55					60					
Val	Lys	Val	Thr	Tyr	Thr	Val	Gln	Tyr	Phe	Ile	Tyr	Gly	Gln	Lys	Lys
65				70				75					80		
Trp	Leu	Asn	Lys	Ser	Glu	Cys	Arg	Asn	Ile	Asn	Arg	Thr	Tyr	Cys	Asp
			85					90					95		

Leu	Ser	Ala	Glu	Thr	Ser	Asp	Tyr	Glu	His	Gln	Tyr	Tyr	Ala	Lys	Val
			100					105					110		
Lys	Ala	Ile	Trp	Gly	Thr	Lys	Cys	Ser	Lys	Trp	Ala	Glu	Ser	Gly	Arg
		115					120					125			
Phe	Tyr	Pro	Phe	Leu	Glu	Thr	Gln	Ile	Gly	Pro	Pro	Glu	Val	Ala	Leu
		130				135					140				
Thr	Thr	Asp	Glu	Lys	Ser	Ile	Ser	Val	Val	Leu	Thr	Ala	Pro	Glu	Lys
145					150					155					160
Trp	Lys	Arg	Asn	Pro	Glu	Asp	Leu	Pro	Val	Ser	Met	Gln	Gln	Ile	Tyr
			165						170						175
Ser	Asn	Leu	Lys	Tyr	Asn	Val	Ser	Val	Leu	Asn	Thr	Lys	Ser	Asn	Arg
		180					185						190		
Thr	Trp	Ser	Gln	Cys	Val	Thr	Asn	His	Thr	Leu	Val	Leu	Thr	Trp	Leu
		195					200					205			
Glu	Pro	Asn	Thr	Leu	Tyr	Cys	Val	His	Val	Glu	Ser	Phe	Val	Pro	Gly
	210					215					220				
Pro	Pro	Arg	Arg	Ala	Gln	Pro	Ser	Glu	Lys	Gln	Cys	Ala	Arg	Thr	Leu
225					230					235					240
Lys	Asp	Gln	Ser	Ser	Glu	Phe	Lys	Ala	Lys	Ile	Ile	Phe	Trp	Tyr	Val
			245						250						255
Leu	Pro	Ile	Ser	Ile	Thr	Val	Phe	Leu	Phe	Ser	Val	Met	Gly	Tyr	Ser
		260						265					270		
Ile	Tyr	Arg	Tyr	Ile	His	Val	Gly	Lys	Glu	Lys	His	Pro	Ala	Asn	Leu
		275					280					285			
Ile	Leu	Ile	Tyr	Gly	Asn	Glu	Phe	Asp	Lys	Arg	Phe	Phe	Val	Pro	Ala
	290					295					300				
Glu	Lys	Ile	Val	Ile	Asn	Phe	Ile	Thr	Leu	Asn	Ile	Ser	Asp	Asp	Ser
305					310					315					320
Lys	Ile	Ser	His	Gln	Asp	Met	Ser	Leu	Leu	Gly	Lys	Ser	Ser	Asp	Val
			325						330					335	
Ser	Ser	Leu	Asn	Asp	Pro	Gln	Pro	Ser	Gly	Asn	Leu	Arg	Pro	Pro	Gln
		340						345					350		
Glu	Glu	Glu	Glu	Val	Lys	His	Leu	Gly	Tyr	Ala	Ser	His	Leu	Met	Glu
		355					360					365			
Ile	Phe	Cys	Asp	Ser	Glu	Glu	Asn	Thr	Glu	Gly	Thr	Ser	Phe	Thr	Gln
	370					375						380			
Gln	Glu	Ser	Leu	Ser	Arg	Thr	Ile	Pro	Pro	Asp	Lys	Thr	Val	Ile	Glu
385					390					395					400
Tyr	Glu	Tyr	Asp	Val	Arg	Thr	Thr	Asp	Ile	Cys	Ala	Gly	Pro	Glu	Glu
			405					410					415		
Gln	Glu	Leu	Ser	Leu	Gln	Glu	Glu	Val	Ser	Thr	Gln	Gly	Thr	Leu	Leu
		420						425					430		

Glu	Ser	Gln	Ala	Ala	Leu	Ala	Val	Leu	Gly	Pro	Gln	Thr	Leu	Gln	Tyr
		435					440					445			
Ser	Tyr	Thr	Pro	Gln	Leu	Gln	Asp	Leu	Asp	Pro	Leu	Ala	Gln	Glu	His
	450					455				460					
Thr	Asp	Ser	Glu	Glu	Gly	Pro	Glu	Glu	Glu	Pro	Ser	Thr	Thr	Leu	Val
465					470					475					480
Asp	Trp	Asp	Pro	Gln	Thr	Gly	Arg	Leu	Cys	Ile	Pro	Ser	Leu	Ser	Ser
			485						490					495	
Phe	Asp	Gln	Asp	Ser	Glu	Gly	Cys	Glu	Pro	Ser	Glu	Gly	Asp	Gly	Leu
		500						505					510		
Gly	Glu	Glu	Gly	Leu	Leu	Ser	Arg	Leu	Tyr	Glu	Glu	Pro	Ala	Pro	Asp
	515					520						525			
Arg	Pro	Pro	Gly	Glu	Asn	Glu	Thr	Tyr	Leu	Met	Gln	Phe	Met	Glu	Glu
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Trp	Gly	Leu	Tyr	Val	Gln	Met	Glu	Asn							
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<210> 12

<211> 221

<212> PRT

<213> Homo sapiens

<400> 12

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Leu	Ser	Ile	Asn	Met	Lys	Asn	Val	Leu	Gln	Trp	Thr	Pro	Pro	Glu	Gly
			20					25					30		
Leu	Gln	Gly	Val	Lys	Val	Thr	Tyr	Thr	Val	Gln	Tyr	Phe	Ile	Tyr	Gly
	35					40						45			
Gln	Lys	Lys	Trp	Leu	Asn	Lys	Ser	Glu	Cys	Arg	Asn	Ile	Asn	Arg	Thr
	50				55						60				
Tyr	Cys	Asp	Leu	Ser	Ala	Glu	Thr	Ser	Asp	Tyr	Glu	His	Gln	Tyr	Tyr
65					70					75				80	
Ala	Lys	Val	Lys	Ala	Ile	Trp	Gly	Thr	Lys	Cys	Ser	Lys	Trp	Ala	Glu
			85						90					95	
Ser	Gly	Arg	Phe	Tyr	Pro	Phe	Leu	Glu	Thr	Gln	Ile	Gly	Pro	Pro	Glu
		100					105						110		
Val	Ala	Leu	Thr	Thr	Asp	Glu	Lys	Ser	Ile	Ser	Val	Val	Leu	Thr	Ala
	115					120						125			
Pro	Glu	Lys	Trp	Lys	Arg	Asn	Pro	Glu	Asp	Leu	Pro	Val	Ser	Met	Gln
	130				135						140				
Gln	Ile	Tyr	Ser	Asn	Leu	Lys	Tyr	Asn	Val	Ser	Val	Leu	Asn	Thr	Lys
145					150					155					160

act gaa ggt cct gag tgt gat gtc act gat gac atc acg gcc act gtg Thr Glu Gly Pro Glu Cys Asp Val Thr Asp Asp Ile Thr Ala Thr Val 95 100 105	338
cca tac aac ctt cgt gtc agg gcc aca ttg ggc tca cag acc tca gcc Pro Tyr Asn Leu Arg Val Arg Ala Thr Leu Gly Ser Gln Thr Ser Ala 110 115 120	386
tgg agc atc ctg aag cat ccc ttt aat aga aac tca acc atc ctt acc Trp Ser Ile Leu Lys His Pro Phe Asn Arg Asn Ser Thr Ile Leu Thr 125 130 135	434
cga cct ggg atg gag atc acc aaa gat ggc ttc cac ctg gtt att gag Arg Pro Gly Met Glu Ile Thr Lys Asp Gly Phe His Leu Val Ile Glu 140 145 150 155	482
ctg gag gac ctg ggg ccc cag ttt gag ttc ctt gtg gcc tac tgg agg Leu Glu Asp Leu Gly Pro Gln Phe Glu Phe Leu Val Ala Tyr Trp Arg 160 165 170	530
agg gag cct ggt gcc gag gaa cat gtc aaa atg gtg agg agt ggg ggt Arg Glu Pro Gly Ala Glu Glu His Val Lys Met Val Arg Ser Gly Gly 175 180 185	578
att cca gtg cac cta gaa acc atg gag cca ggg gct gca tac tgt gtg Ile Pro Val His Leu Glu Thr Met Glu Pro Gly Ala Ala Tyr Cys Val 190 195 200	626
aag gcc cag aca ttc gtg aag gcc att ggg agg tac agc gcc ttc agc Lys Ala Gln Thr Phe Val Lys Ala Ile Gly Arg Tyr Ser Ala Phe Ser 205 210 215	674
cag aca gaa tgt gtg gag gtg caa gga gag gcc att ccc ctg gta ctg Gln Thr Glu Cys Val Glu Val Gln Gly Glu Ala Ile Pro Leu Val Leu 220 225 230 235	722
gcc ctg ttt gcc ttt gtt ggc ttc atg ctg atc ctt gtg gtc gtg cca Ala Leu Phe Ala Phe Val Gly Phe Met Leu Ile Leu Val Val Val Pro 240 245 250	770
ctg ttc gtc tgg aaa atg ggc cgg ctg ctc cag tac tcc tgt tgc ccc Leu Phe Val Trp Lys Met Gly Arg Leu Leu Gln Tyr Ser Cys Cys Pro 255 260 265	818

gtg gtg gtc ctc cca gac acc ttg aaa ata acc aat tca ccc cag aag 866
 Val Val Val Leu Pro Asp Thr Leu Lys Ile Thr Asn Ser Pro Gln Lys
 270 275 280

tta atc agc tgc aga agg gag gag gtg gat gcc tgt gcc acg gct gtg 914
 Leu Ile Ser Cys Arg Arg Glu Glu Val Asp Ala Cys Ala Thr Ala Val
 285 290 295

atg tct cct gag gaa ctc ctc agg gcc tgg atc tca taggtttgcg 960
 Met Ser Pro Glu Glu Leu Leu Arg Ala Trp Ile Ser
 300 305 310

gaaggctcga g 971

<210> 14
 <211> 311
 <212> PRT
 <213> Homo sapiens

<400> 14
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 Ala Ile Leu Pro Ala Pro Gln Asn Leu Ser Val Leu Ser Thr Asn Met
 35 40 45
 Lys His Leu Leu Met Trp Ser Pro Val Ile Ala Pro Gly Glu Thr Val
 50 55 60
 Tyr Tyr Ser Val Glu Tyr Gln Gly Glu Tyr Glu Ser Leu Tyr Thr Ser
 65 70 75 80
 His Ile Trp Ile Pro Ser Ser Trp Cys Ser Leu Thr Glu Gly Pro Glu
 85 90 95
 Cys Asp Val Thr Asp Asp Ile Thr Ala Thr Val Pro Tyr Asn Leu Arg
 100 105 110
 Val Arg Ala Thr Leu Gly Ser Gln Thr Ser Ala Trp Ser Ile Leu Lys
 115 120 125
 His Pro Phe Asn Arg Asn Ser Thr Ile Leu Thr Arg Pro Gly Met Glu
 130 135 140
 Ile Thr Lys Asp Gly Phe His Leu Val Ile Glu Leu Glu Asp Leu Gly
 145 150 155 160
 Pro Gln Phe Glu Phe Leu Val Ala Tyr Trp Arg Arg Glu Pro Gly Ala
 165 170 175

Glu	Glu	His	Val	Lys	Met	Val	Arg	Ser	Gly	Gly	Ile	Pro	Val	His	Leu
			180					185					190		
Glu	Thr	Met	Glu	Pro	Gly	Ala	Ala	Tyr	Cys	Val	Lys	Ala	Gln	Thr	Phe
		195					200					205			
Val	Lys	Ala	Ile	Gly	Arg	Tyr	Ser	Ala	Phe	Ser	Gln	Thr	Glu	Cys	Val
	210					215					220				
Glu	Val	Gln	Gly	Glu	Ala	Ile	Pro	Leu	Val	Leu	Ala	Leu	Phe	Ala	Phe
225					230					235				240	
Val	Gly	Phe	Met	Leu	Ile	Leu	Val	Val	Val	Pro	Leu	Phe	Val	Trp	Lys
			245					250						255	
Met	Gly	Arg	Leu	Leu	Gln	Tyr	Ser	Cys	Cys	Pro	Val	Val	Val	Leu	Pro
		260					265					270			
Asp	Thr	Leu	Lys	Ile	Thr	Asn	Ser	Pro	Gln	Lys	Leu	Ile	Ser	Cys	Arg
	275					280						285			
Arg	Glu	Glu	Val	Asp	Ala	Cys	Ala	Thr	Ala	Val	Met	Ser	Pro	Glu	Glu
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Leu	Leu	Arg	Ala	Trp	Ile	Ser									
305					310										

<210> 15
 <211> 203
 <212> PRT
 <213> Homo sapiens

<400> 15															
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Thr	Asn	Met	Lys	His	Leu	Leu	Met	Trp	Ser	Pro	Val	Ile	Ala	Pro	Gly
		20					25					30			
Glu	Thr	Val	Tyr	Tyr	Ser	Val	Glu	Tyr	Gln	Gly	Glu	Tyr	Glu	Ser	Leu
	35					40					45				
Tyr	Thr	Ser	His	Ile	Trp	Ile	Pro	Ser	Ser	Trp	Cys	Ser	Leu	Thr	Glu
	50				55					60					
Gly	Pro	Glu	Cys	Asp	Val	Thr	Asp	Asp	Ile	Thr	Ala	Thr	Val	Pro	Tyr
65				70					75					80	
Asn	Leu	Arg	Val	Arg	Ala	Thr	Leu	Gly	Ser	Gln	Thr	Ser	Ala	Trp	Ser
			85					90						95	
Ile	Leu	Lys	His	Pro	Phe	Asn	Arg	Asn	Ser	Thr	Ile	Leu	Thr	Arg	Pro
	100					105						110			
Gly	Met	Glu	Ile	Thr	Lys	Asp	Gly	Phe	His	Leu	Val	Ile	Glu	Leu	Glu
	115					120						125			
Asp	Leu	Gly	Pro	Gln	Phe	Glu	Phe	Leu	Val	Ala	Tyr	Trp	Arg	Arg	Glu
	130					135						140			

Pro	Gly	Ala	Glu	Glu	His	Val	Lys	Met	Val	Arg	Ser	Gly	Gly	Ile	Pro
145					150				155					160	
Val	His	Leu	Glu	Thr	Met	Glu	Pro	Gly	Ala	Ala	Tyr	Cys	Val	Lys	Ala
			165					170						175	
Gln	Thr	Phe	Val	Lys	Ala	Ile	Gly	Arg	Tyr	Ser	Ala	Phe	Ser	Gln	Thr
		180					185						190		
Glu	Cys	Val	Glu	Val	Gln	Gly	Glu	Ala	Ile	Pro					
	195					200									

<210> 16
 <211> 33
 <212> DNA
 <213> Homo sapiens

<400> 16
 gcgaattcga gtctaccaa tgcagacttt cac 33

<210> 17
 <211> 32
 <212> DNA
 <213> Homo sapiens

<400> 17
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<210> 18
 <211> 1382
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (132)...(1034)

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gagtctacca a atg cag act ttc aca atg gtt cta gaa gaa atc tgg aca	170
Met Gln Thr Phe Thr Met Val Leu Glu Glu Ile Trp Thr	
1 5 10	

agt ctt ttc atg tgg ttt ttc tac gca ttg att cca tgt ttg ctc aca 218

Ser	Leu	Phe	Met	Trp	Phe	Phe	Tyr	Ala	Leu	Ile	Pro	Cys	Leu	Leu	Thr	
15						20					25					
gat	gaa	gtg	gcc	att	ctg	cct	gcc	cct	cag	aac	ctc	tct	gta	ctc	tca	266
Asp	Glu	Val	Ala	Ile	Leu	Pro	Ala	Pro	Gln	Asn	Leu	Ser	Val	Leu	Ser	
30					35				40						45	
acc	aac	atg	aag	cat	ctc	ttg	atg	tgg	agc	cca	gtg	atc	gcg	cct	gga	314
Thr	Asn	Met	Lys	His	Leu	Leu	Met	Trp	Ser	Pro	Val	Ile	Ala	Pro	Gly	
				50				55						60		
gaa	aca	gtg	tac	tat	tct	gtc	gaa	tac	cag	ggg	gag	tac	gag	agc	ctg	362
Glu	Thr	Val	Tyr	Tyr	Ser	Val	Glu	Tyr	Gln	Gly	Glu	Tyr	Glu	Ser	Leu	
			65				70						75			
tac	acg	agc	cac	atc	tgg	atc	ccc	agc	agc	tgg	tgc	tca	ctc	act	gaa	410
Tyr	Thr	Ser	His	Ile	Trp	Ile	Pro	Ser	Ser	Trp	Cys	Ser	Leu	Thr	Glu	
		80					85					90				
ggt	cct	gag	tgt	gat	gtc	act	gat	gac	atc	acg	gcc	act	gtg	cca	tac	458
Gly	Pro	Glu	Cys	Asp	Val	Thr	Asp	Asp	Ile	Thr	Ala	Thr	Val	Pro	Tyr	
	95					100					105					
aac	ctt	cgt	gtc	agg	gcc	aca	ttg	ggc	tca	cag	acc	tca	gcc	tgg	agc	506
Asn	Leu	Arg	Val	Arg	Ala	Thr	Leu	Gly	Ser	Gln	Thr	Ser	Ala	Trp	Ser	
110					115				120						125	
atc	ctg	aag	cat	ccc	ttt	aat	aga	aac	tca	acc	atc	ctt	acc	cga	cct	554
Ile	Leu	Lys	His	Pro	Phe	Asn	Arg	Asn	Ser	Thr	Ile	Leu	Thr	Arg	Pro	
				130				135						140		
ggg	atg	gag	atc	ccc	aaa	cat	ggc	ttc	cac	ctg	gtt	att	gag	ctg	gag	602
Gly	Met	Glu	Ile	Pro	Lys	His	Gly	Phe	His	Leu	Val	Ile	Glu	Leu	Glu	
			145				150						155			
gac	ctg	ggg	ccc	cag	ttt	gag	ttc	ctt	gtg	gcc	tac	tgg	acg	agg	gag	650
Asp	Leu	Gly	Pro	Gln	Phe	Glu	Phe	Leu	Val	Ala	Tyr	Trp	Thr	Arg	Glu	
		160				165						170				
cct	ggt	gcc	gag	gaa	cat	gtc	aaa	atg	gtg	agg	agt	ggg	ggt	att	cca	698
Pro	Gly	Ala	Glu	Glu	His	Val	Lys	Met	Val	Arg	Ser	Gly	Gly	Ile	Pro	
	175					180					185					

gtg cac cta gaa acc atg gag cca ggg gct gca tac tgt gtg aag gcc	746
Val His Leu Glu Thr Met Glu Pro Gly Ala Ala Tyr Cys Val Lys Ala	
190 195 200 205	
cag aca ttc gtg aag gcc att ggg agg tac agc gcc ttc agc cag aca	794
Gln Thr Phe Val Lys Ala Ile Gly Arg Tyr Ser Ala Phe Ser Gln Thr	
210 215 220	
gaa tgt gtg gag gtg caa gga gag gcc att ccc ctg gta ctg gcc ctg	842
Glu Cys Val Glu Val Gln Gly Glu Ala Ile Pro Leu Val Leu Ala Leu	
225 230 235	
ttt gcc ttt gtt ggc ttc atg ctg atc ctt gtg gtc gtg cca ctg ttc	890
Phe Ala Phe Val Gly Phe Met Leu Ile Leu Val Val Val Pro Leu Phe	
240 245 250	
gtc tgg aaa atg ggc cgg ctg ctc cag tac tcc tgt tgc ccc gtg gtg	938
Val Trp Lys Met Gly Arg Leu Leu Gln Tyr Ser Cys Cys Pro Val Val	
255 260 265	
gtc ctc cca gac acc ttg aaa ata acc aat tca ccc cag gtt aat cag	986
Val Leu Pro Asp Thr Leu Lys Ile Thr Asn Ser Pro Gln Val Asn Gln	
270 275 280 285	
ctg cag aag gga gga ggt gga tgc ctg tgc cac ggc tgt gat gtc tcc	1034
Leu Gln Lys Gly Gly Gly Cys Leu Cys His Gly Cys Asp Val Ser	
290 295 300	
tgaggaactc ctcagggcct ggatctcata tcaggtttgc ggaagggcc aggtgaagcc	1094
gagaacctgg tctgcatgac atggaacca tgaggggaca agttgtgttt ctgttttccg	1154
ccacggacaa gggatgagag aagtaggaag agcctgttgt ctacaagtct agaagcaacc	1214
atcagaggca ggggtggttg tctaacagaa caactgactg aggctatggg gggtgtgacc	1274
tctagacttt gggcttcac ttgcttggt gagcaaccct gggaaaagtg acttcatccc	1334
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<210> 19

<211> 301

<212> PRT

<213> Homo sapiens

<400> 19

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1 5 10 15

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			20					25					30		
Ala	Ile	Leu	Pro	Ala	Pro	Gln	Asn	Leu	Ser	Val	Leu	Ser	Thr	Asn	Met
		35					40					45			
Lys	His	Leu	Leu	Met	Trp	Ser	Pro	Val	Ile	Ala	Pro	Gly	Glu	Thr	Val
	50					55					60				
Tyr	Tyr	Ser	Val	Glu	Tyr	Gln	Gly	Glu	Tyr	Glu	Ser	Leu	Tyr	Thr	Ser
65					70					75				80	
His	Ile	Trp	Ile	Pro	Ser	Ser	Trp	Cys	Ser	Leu	Thr	Glu	Gly	Pro	Glu
			85					90						95	
Cys	Asp	Val	Thr	Asp	Asp	Ile	Thr	Ala	Thr	Val	Pro	Tyr	Asn	Leu	Arg
			100					105					110		
Val	Arg	Ala	Thr	Leu	Gly	Ser	Gln	Thr	Ser	Ala	Trp	Ser	Ile	Leu	Lys
		115					120					125			
His	Pro	Phe	Asn	Arg	Asn	Ser	Thr	Ile	Leu	Thr	Arg	Pro	Gly	Met	Glu
	130					135					140				
Ile	Pro	Lys	His	Gly	Phe	His	Leu	Val	Ile	Glu	Leu	Glu	Asp	Leu	Gly
145					150					155				160	
Pro	Gln	Phe	Glu	Phe	Leu	Val	Ala	Tyr	Trp	Thr	Arg	Glu	Pro	Gly	Ala
				165				170						175	
Glu	Glu	His	Val	Lys	Met	Val	Arg	Ser	Gly	Gly	Ile	Pro	Val	His	Leu
			180					185					190		
Glu	Thr	Met	Glu	Pro	Gly	Ala	Ala	Tyr	Cys	Val	Lys	Ala	Gln	Thr	Phe
		195				200					205				
Val	Lys	Ala	Ile	Gly	Arg	Tyr	Ser	Ala	Phe	Ser	Gln	Thr	Glu	Cys	Val
	210					215					220				
Glu	Val	Gln	Gly	Glu	Ala	Ile	Pro	Leu	Val	Leu	Ala	Leu	Phe	Ala	Phe
225					230					235				240	
Val	Gly	Phe	Met	Leu	Ile	Leu	Val	Val	Val	Pro	Leu	Phe	Val	Trp	Lys
			245					250					255		
Met	Gly	Arg	Leu	Leu	Gln	Tyr	Ser	Cys	Cys	Pro	Val	Val	Val	Leu	Pro
			260					265					270		
Asp	Thr	Leu	Lys	Ile	Thr	Asn	Ser	Pro	Gln	Val	Asn	Gln	Leu	Gln	Lys
		275				280					285				
Gly	Gly	Gly	Gly	Cys	Leu	Cys	His	Gly	Cys	Asp	Val	Ser			
	290					295					300				

<210> 20

<211> 1081

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (9)...(1067)

<400> 20

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	Met	Gln	Thr	Phe	Thr	Met	Val	Leu	Glu	Glu	Ile	Trp	Thr	Ser	
	1				5				10						

ctt	ttc	atg	tgg	ttt	ttc	tac	gca	ttg	att	cca	tgt	ttg	ctc	aca	gat	98
Leu	Phe	Met	Trp	Phe	Phe	Tyr	Ala	Leu	Ile	Pro	Cys	Leu	Leu	Thr	Asp	
15				20					25					30		

gaa	gtg	gcc	att	ctg	cct	gcc	cct	cag	aac	ctc	tct	gta	ctc	tca	acc	146
Glu	Val	Ala	Ile	Leu	Pro	Ala	Pro	Gln	Asn	Leu	Ser	Val	Leu	Ser	Thr	
			35					40					45			

aac	atg	aag	cat	ctc	ttg	atg	tgg	agc	cca	gtg	atc	gcg	cct	gga	gaa	194
Asn	Met	Lys	His	Leu	Leu	Met	Trp	Ser	Pro	Val	Ile	Ala	Pro	Gly	Glu	
		50					55					60				

aca	gtg	tac	tat	tct	gtc	gaa	tac	cag	ggg	gag	tac	gag	agc	ctg	tac	242
Thr	Val	Tyr	Tyr	Ser	Val	Glu	Tyr	Gln	Gly	Glu	Tyr	Glu	Ser	Leu	Tyr	
	65					70					75					

acg	agc	cac	atc	tgg	atc	ccc	agc	agc	tgg	tgc	tca	ctc	act	gaa	ggc	290
Thr	Ser	His	Ile	Trp	Ile	Pro	Ser	Ser	Trp	Cys	Ser	Leu	Thr	Glu	Gly	
	80					85				90						

cct	gag	tgt	gat	gtc	act	gat	gac	atc	acg	gcc	act	gtg	cca	tac	aac	338
Pro	Glu	Cys	Asp	Val	Thr	Asp	Asp	Ile	Thr	Ala	Thr	Val	Pro	Tyr	Asn	
95				100					105					110		

ctt	cgt	gtc	agg	gcc	aca	ttg	ggc	tca	cag	acc	tca	gcc	tgg	agc	atc	386
Leu	Arg	Val	Arg	Ala	Thr	Leu	Gly	Ser	Gln	Thr	Ser	Ala	Trp	Ser	Ile	
			115				120						125			

ctg	aag	cat	ccc	ttt	aat	aga	aac	tca	acc	atc	ctt	acc	cga	cct	ggg	434
Leu	Lys	His	Pro	Phe	Asn	Arg	Asn	Ser	Thr	Ile	Leu	Thr	Arg	Pro	Gly	
		130					135					140				

atg	gag	atc	ccc	aaa	cat	ggc	ttc	cac	ctg	gtt	att	gag	ctg	gag	gac	482
Met	Glu	Ile	Pro	Lys	His	Gly	Phe	His	Leu	Val	Ile	Glu	Leu	Glu	Asp	
	145					150					155					

ctg ggg ccc cag ttt gag ttc ctt gtg gcc tac tgg acg agg gag cct Leu Gly Pro Gln Phe Glu Phe Leu Val Ala Tyr Trp Thr Arg Glu Pro 160 165 170	530
ggt gcc gag gaa cat gtc aaa atg gtg agg agt ggg ggt att cca gtg Gly Ala Glu Glu His Val Lys Met Val Arg Ser Gly Gly Ile Pro Val 175 180 185 190	578
cac cta gaa acc atg gag cca ggg gct gca tac tgt gtg aag gcc cag His Leu Glu Thr Met Glu Pro Gly Ala Ala Tyr Cys Val Lys Ala Gln 195 200 205	626
aca ttc gtg aag gcc att ggg agg tac agc gcc ttc agc cag aca gaa Thr Phe Val Lys Ala Ile Gly Arg Tyr Ser Ala Phe Ser Gln Thr Glu 210 215 220	674
tgt gtg gag gtg caa gga gag gcc gga ggt ggt ggc agt gga ggc ggc Cys Val Glu Val Gln Gly Glu Ala Gly Gly Gly Gly Ser Gly Gly Gly 225 230 235	722
ggt agc gga ggc ggt ggc agt cga act gtg gct gca cca tct gtc ttc Gly Ser Gly Gly Gly Gly Ser Arg Thr Val Ala Ala Pro Ser Val Phe 240 245 250	770
atc ttc ccg cca tct gat gag cag ttg aaa tct gga act gcc tct gtt Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val 255 260 265 270	818
gtg tgc ctg ctg aat aac ttc tat ccc aga gag gcc aaa gta cag tgg Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp 275 280 285	866
aag gtg gat aac gcc ctc caa tcg ggt aac tcc cag gag agt gtc aca Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr 290 295 300	914
gag cag gac agc aag gac agc acc tac agc ctc agc agc acc ctg acg Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr 305 310 315	962
ctg agc aaa gca gac tac gag aaa cac aaa gtc tac gcc tgc gaa gtc	1010

Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val
 320 325 330

acc cat cag ggc ctg agc tcg ccc gtc aca aag agc ttc aac agg gga 1058
 Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly
 335 340 345 350

gag tgt taa tctagaggcg cgcc 1081
 Glu Cys *

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 Ala Ile Leu Pro Ala Pro Gln Asn Leu Ser Val Leu Ser Thr Asn Met
 35 40 45
 Lys His Leu Leu Met Trp Ser Pro Val Ile Ala Pro Gly Glu Thr Val
 50 55 60
 Tyr Tyr Ser Val Glu Tyr Gln Gly Glu Tyr Glu Ser Leu Tyr Thr Ser
 65 70 75 80
 His Ile Trp Ile Pro Ser Ser Trp Cys Ser Leu Thr Glu Gly Pro Glu
 85 90 95
 Cys Asp Val Thr Asp Asp Ile Thr Ala Thr Val Pro Tyr Asn Leu Arg
 100 105 110
 Val Arg Ala Thr Leu Gly Ser Gln Thr Ser Ala Trp Ser Ile Leu Lys
 115 120 125
 His Pro Phe Asn Arg Asn Ser Thr Ile Leu Thr Arg Pro Gly Met Glu
 130 135 140
 Ile Pro Lys His Gly Phe His Leu Val Ile Glu Leu Glu Asp Leu Gly
 145 150 155 160
 Pro Gln Phe Glu Phe Leu Val Ala Tyr Trp Thr Arg Glu Pro Gly Ala
 165 170 175
 Glu Glu His Val Lys Met Val Arg Ser Gly Gly Ile Pro Val His Leu
 180 185 190
 Glu Thr Met Glu Pro Gly Ala Ala Tyr Cys Val Lys Ala Gln Thr Phe
 195 200 205

Val	Lys	Ala	Ile	Gly	Arg	Tyr	Ser	Ala	Phe	Ser	Gln	Thr	Glu	Cys	Val
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Glu	Val	Gln	Gly	Glu	Ala	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser
225					230					235					240
Gly	Gly	Gly	Gly	Ser	Arg	Thr	Val	Ala	Ala	Pro	Ser	Val	Phe	Ile	Phe
				245					250					255	
Pro	Pro	Ser	Asp	Glu	Gln	Leu	Lys	Ser	Gly	Thr	Ala	Ser	Val	Val	Cys
			260					265					270		
Leu	Leu	Asn	Asn	Phe	Tyr	Pro	Arg	Glu	Ala	Lys	Val	Gln	Trp	Lys	Val
		275					280					285			
Asp	Asn	Ala	Leu	Gln	Ser	Gly	Asn	Ser	Gln	Glu	Ser	Val	Thr	Glu	Gln
290						295					300				
Asp	Ser	Lys	Asp	Ser	Thr	Tyr	Ser	Leu	Ser	Ser	Thr	Leu	Thr	Leu	Ser
305					310					315					320
Lys	Ala	Asp	Tyr	Glu	Lys	His	Lys	Val	Tyr	Ala	Cys	Glu	Val	Thr	His
				325					330					335	
Gln	Gly	Leu	Ser	Ser	Pro	Val	Thr	Lys	Ser	Phe	Asn	Arg	Gly	Glu	Cys
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	Met	Asp	Ala	Met	Lys	Arg	Gly	Leu	Cys	Cys	Val	Leu	Leu	Leu		
	1				5					10						
tgt	ggc	gcc	gtc	ttc	gtt	tcg	ctc	agc	cag	gaa	atc	cat	gcc	gag	ttg	97
Cys	Gly	Ala	Val	Phe	Val	Ser	Leu	Ser	Gln	Glu	Ile	His	Ala	Glu	Leu	
15					20					25				30		
aga	cgc	ttc	cgt	aga	gtt	ccc	tgt	gtc	tct	ggg	ggg	ttg	cct	aaa	cct	145
Arg	Arg	Phe	Arg	Arg	Val	Pro	Cys	Val	Ser	Gly	Gly	Leu	Pro	Lys	Pro	
				35				40					45			
gca	aac	atc	acc	ttc	tta	tcc	atc	aac	atg	aag	aat	gtc	cta	caa	tgg	193

Ala Asn Ile Thr Phe Leu Ser Ile Asn Met Lys Asn Val Leu Gln Trp	
50 55 60	
act cca cca gag ggt ctt caa gga gtt aaa gtt act tac act gtg cag	241
Thr Pro Pro Glu Gly Leu Gln Gly Val Lys Val Thr Tyr Thr Val Gln	
65 70 75	
tat ttc ata tat ggg caa aag aaa tgg ctg aat aaa tca gaa tgc aga	289
Tyr Phe Ile Tyr Gly Gln Lys Lys Trp Leu Asn Lys Ser Glu Cys Arg	
80 85 90	
aat atc aat aga acc tac tgt gat ctt tct gct gaa act tct gac tac	337
Asn Ile Asn Arg Thr Tyr Cys Asp Leu Ser Ala Glu Thr Ser Asp Tyr	
95 100 105 110	
gaa cac cag tat tat gcc aaa gtt aag gcc att tgg gga aca aag tgt	385
Glu His Gln Tyr Tyr Ala Lys Val Lys Ala Ile Trp Gly Thr Lys Cys	
115 120 125	
tcc aaa tgg gct gaa agt gga cgg ttc tat cct ttt tta gaa aca caa	433
Ser Lys Trp Ala Glu Ser Gly Arg Phe Tyr Pro Phe Leu Glu Thr Gln	
130 135 140	
att ggc cca cca gag gtg gca ctg act aca gat gag aag tcc att tct	481
Ile Gly Pro Pro Glu Val Ala Leu Thr Thr Asp Glu Lys Ser Ile Ser	
145 150 155	
gtt gtc ctg aca gct cca gag aag tgg aag aga aat cca gaa gac ctt	529
Val Val Leu Thr Ala Pro Glu Lys Trp Lys Arg Asn Pro Glu Asp Leu	
160 165 170	
cct gtt tcc atg caa caa ata tac tcc aat ctg aag tat aac gtg tct	577
Pro Val Ser Met Gln Gln Ile Tyr Ser Asn Leu Lys Tyr Asn Val Ser	
175 180 185 190	
gtg ttg aat act aaa tca aac aga acg tgg tcc cag tgt gtg acc aac	625
Val Leu Asn Thr Lys Ser Asn Arg Thr Trp Ser Gln Cys Val Thr Asn	
195 200 205	
cac acg ctg gtg ctc acc tgg ctg gag ccg aac act ctt tac tgc gta	673
His Thr Leu Val Leu Thr Trp Leu Glu Pro Asn Thr Leu Tyr Cys Val	
210 215 220	

cac gtg gag tcc ttc gtc cca ggg ccc cct cgc cgt gct cag cct tct	721
His Val Glu Ser Phe Val Pro Gly Pro Pro Arg Arg Ala Gln Pro Ser	
225 230 235	
gag aag cag tgt gcc agg act ttg aaa gat caa ggt gga ggc ggt tca	769
Glu Lys Gln Cys Ala Arg Thr Leu Lys Asp Gln Gly Gly Gly Gly Ser	
240 245 250	
ggc gga ggt ggc tct ggc ggt ggc gga tcg gcc tcc acc aag ggc cca	817
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ala Ser Thr Lys Gly Pro	
255 260 265 270	
tcg gtc ttc ccc ctg gca ccc tcc tcc aag agc acc tct ggg ggc aca	865
Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr	
275 280 285	
gcg gcc ctg ggc tgc ctg gtc aag gac tac ttc ccc gaa ccg gtg acg	913
Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr	
290 295 300	
gtg tcg tgg aac tca ggc gcc ctg acc agc ggc gtg cac acc ttc ccg	961
Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro	
305 310 315	
gct gtc cta cag tcc tca gga ctc tac tcc ctc agc agc gtg gtg acc	1009
Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr	
320 325 330	
gtg ccc tcc agc agc ttg ggc acc cag acc tac atc tgc aac gtg aat	1057
Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn	
335 340 345 350	
cac aag ccc agc aac acc aag gtg gac aag aaa gtt gag ccc aaa tct	1105
His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser	
355 360 365	
tgt gac aaa act cac aca tgc cca ccg tgc cca gca cct gaa gcc gag	1153
Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Glu	
370 375 380	
ggg gca ccg tca gtc ttc ctc ttc ccc cca aaa ccc aag gac acc ctc	1201
Gly Ala Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu	
385 390 395	

atg atc tcc cgg acc cct gag gtc aca tgc gtg gtg gtg gac gtg agc Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser 400 405 410	1249
cac gaa gac cct gag gtc aag ttc aac tgg tac gtg gac ggc gtg gag His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu 415 420 425 430	1297
gtg cat aat gcc aag aca aag ccg cgg gag gag cag tac aac agc acg Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr 435 440 445	1345
tac cgt gtg gtc agc gtc ctc acc gtc ctg cac cag gac tgg ctg aat Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn 450 455 460	1393
ggc aag gag tac aag tgc aag gtc tcc aac aaa gcc ctc cca tcc tcc Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ser Ser 465 470 475	1441
atc gag aaa acc atc tcc aaa gcc aaa ggg cag ccc cga gaa cca cag Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln 480 485 490	1489
gtg tac acc ctg ccc cca tcc cgg gat gag ctg acc aag aac cag gtc Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val 495 500 505 510	1537
agc ctg acc tgc ctg gtc aaa ggc ttc tat ccc agc gac atc gcc gtg Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val 515 520 525	1585
gag tgg gag agc aat ggg cag ccg gag aac aac tac aag acc acg cct Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro 530 535 540	1633
ccc gtg ctg gac tcc gac ggc tcc ttc ttc ctc tac agc aag ctc acc Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr 545 550 555	1681
gtg gac aag agc agg tgg cag cag ggg aac gtc ttc tca tgc tcc gtg	1729

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
 560 565 570

atg cat gag gct ctg cac aac cac tac acg cag aag agc ctc tcc ctg 1777
 Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
 575 580 585 590

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 Ser Pro Gly Lys

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 35 40 45
 Ile Thr Phe Leu Ser Ile Asn Met Lys Asn Val Leu Gln Trp Thr Pro
 50 55 60
 Pro Glu Gly Leu Gln Gly Val Lys Val Thr Tyr Thr Val Gln Tyr Phe
 65 70 75 80
 Ile Tyr Gly Gln Lys Lys Trp Leu Asn Lys Ser Glu Cys Arg Asn Ile
 85 90 95
 Asn Arg Thr Tyr Cys Asp Leu Ser Ala Glu Thr Ser Asp Tyr Glu His
 100 105 110
 Gln Tyr Tyr Ala Lys Val Lys Ala Ile Trp Gly Thr Lys Cys Ser Lys
 115 120 125
 Trp Ala Glu Ser Gly Arg Phe Tyr Pro Phe Leu Glu Thr Gln Ile Gly
 130 135 140
 Pro Pro Glu Val Ala Leu Thr Thr Asp Glu Lys Ser Ile Ser Val Val
 145 150 155 160
 Leu Thr Ala Pro Glu Lys Trp Lys Arg Asn Pro Glu Asp Leu Pro Val
 165 170 175
 Ser Met Gln Gln Ile Tyr Ser Asn Leu Lys Tyr Asn Val Ser Val Leu
 180 185 190
 Asn Thr Lys Ser Asn Arg Thr Trp Ser Gln Cys Val Thr Asn His Thr
 195 200 205

Leu	Val	Leu	Thr	Trp	Leu	Glu	Pro	Asn	Thr	Leu	Tyr	Cys	Val	His	Val
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Glu	Ser	Phe	Val	Pro	Gly	Pro	Pro	Arg	Arg	Ala	Gln	Pro	Ser	Glu	Lys
225					230					235					240
Gln	Cys	Ala	Arg	Thr	Leu	Lys	Asp	Gln	Gly	Gly	Gly	Gly	Ser	Gly	Gly
				245					250					255	
Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val
			260					265					270		
Phe	Pro	Leu	Ala	Pro	Ser	Ser	Lys	Ser	Thr	Ser	Gly	Gly	Thr	Ala	Ala
		275					280					285			
Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser
290						295					300				
Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val
305					310					315					320
Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro
				325					330					335	
Ser	Ser	Ser	Leu	Gly	Thr	Gln	Thr	Tyr	Ile	Cys	Asn	Val	Asn	His	Lys
			340				345					350			
Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Lys	Val	Glu	Pro	Lys	Ser	Cys	Asp
		355					360					365			
Lys	Thr	His	Thr	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Glu	Ala	Glu	Gly	Ala
370						375					380				
Pro	Ser	Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile
385					390					395					400
Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	His	Glu
				405					410					415	
Asp	Pro	Glu	Val	Lys	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His
		420					425						430		
Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Tyr	Asn	Ser	Thr	Tyr	Arg
		435					440					445			
Val	Val	Ser	Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys
		450					455				460				
Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	Ala	Leu	Pro	Ser	Ser	Ile	Glu
465					470					475					480
Lys	Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr
				485					490					495	
Thr	Leu	Pro	Pro	Ser	Arg	Asp	Glu	Leu	Thr	Lys	Asn	Gln	Val	Ser	Leu
			500					505					510		
Thr	Cys	Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp
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Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val
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103	
	Pro Ala Pro Gly His Pro Asp Pro Pro Pro Leu Leu Leu Leu Thr Leu
	10 15 20
ctt ctg ctg ctg gcc gct tcg gga cgc gca gtt cct tgt gtc ttc tgt	
151	
	Leu Leu Leu Leu Ala Ala Ser Gly Arg Ala Val Pro Cys Val Phe Cys
	25 30 35
ggt ttg cct aaa cct aca aat atc acc ttc tta tcc atc aac atg aag	
199	
	Gly Leu Pro Lys Pro Thr Asn Ile Thr Phe Leu Ser Ile Asn Met Lys
	40 45 50

aat gtc ctg cat tgg aat cca cca gag agt cta cac gga gtt gaa gtc Asn Val Leu His Trp Asn Pro Pro Glu Ser Leu His Gly Val Glu Val 55 60 65 70	247
aca tac act gtg caa tat ttc ata tat ggg cag aag aaa tgg ctg aat Thr Tyr Thr Val Gln Tyr Phe Ile Tyr Gly Gln Lys Lys Trp Leu Asn 75 80 85	295
gcc tct aaa tgc ggg agt atc aac agg acc tac tgt gac ctt tct gtt Ala Ser Lys Cys Gly Ser Ile Asn Arg Thr Tyr Cys Asp Leu Ser Val 90 95 100	343
gag acc tca gac tat gaa cac cag ttc tat gcc aaa gtg aag gcc att Glu Thr Ser Asp Tyr Glu His Gln Phe Tyr Ala Lys Val Lys Ala Ile 105 110 115	391
tgg gaa gcc agg tgc tcc gaa tgg gcc gag acg gaa cgc ttc tat cct Trp Glu Ala Arg Cys Ser Glu Trp Ala Glu Thr Glu Arg Phe Tyr Pro 120 125 130	439
ttc ttg gaa act caa gtc agc cca cca gag att gcc ctg aca act ggc Phe Leu Glu Thr Gln Val Ser Pro Pro Glu Ile Ala Leu Thr Thr Gly 135 140 145 150	487
gag aag tcc atc tct att gcc ctg aca gca cca gag aag tgg aaa aga Glu Lys Ser Ile Ser Ile Ala Leu Thr Ala Pro Glu Lys Trp Lys Arg 155 160 165	535
aat cca caa gac cac act gtt tct atg caa cag ata tac ccc aat ttg Asn Pro Gln Asp His Thr Val Ser Met Gln Gln Ile Tyr Pro Asn Leu 170 175 180	583
aag tac aat gtg tct gtg tat aac act aag tcg aga aga acg tgg tcc Lys Tyr Asn Val Ser Val Tyr Asn Thr Lys Ser Arg Arg Thr Trp Ser 185 190 195	631
cag tgt gtc acc aac agc aca ctg gtc ctc agc tgg ctg gag ccc aac Gln Cys Val Thr Asn Ser Thr Leu Val Leu Ser Trp Leu Glu Pro Asn 200 205 210	679
act ctg tat tgt gtc cac gtg gag tcc ctt gtc cca ggg ccc cct cgc	727

Thr	Leu	Tyr	Cys	Val	His	Val	Glu	Ser	Leu	Val	Pro	Gly	Pro	Pro	Arg	
215					220					225					230	
ctc	ccg	atg	cct	tct	cag	aag	cag	tgc	atc	agt	act	ttg	gaa	gtt	caa	775
Leu	Pro	Met	Pro	Ser	Gln	Lys	Gln	Cys	Ile	Ser	Thr	Leu	Glu	Val	Gln	
				235					240					245		
aca	tca	gca	tgg	aag	gct	aaa	gtc	atc	ttc	tgg	tat	gtc	ttc	ctc	aca	823
Thr	Ser	Ala	Trp	Lys	Ala	Lys	Val	Ile	Phe	Trp	Tyr	Val	Phe	Leu	Thr	
			250					255					260			
tct	gtt	atc	gtg	ttt	ctt	ttc	tcc	gca	att	ggc	tac	ttg	gtt	tac	cgt	871
Ser	Val	Ile	Val	Phe	Leu	Phe	Ser	Ala	Ile	Gly	Tyr	Leu	Val	Tyr	Arg	
	265						270					275				
tac	atc	cat	gtt	ggc	aag	gaa	aaa	cac	cca	gca	aat	ttg	gta	ctg	att	919
Tyr	Ile	His	Val	Gly	Lys	Glu	Lys	His	Pro	Ala	Asn	Leu	Val	Leu	Ile	
	280					285					290					
tat	aga	aat	gaa	att	ggc	aca	aga	gtc	ttt	gaa	cct	act	gaa	aca	atc	967
Tyr	Arg	Asn	Glu	Ile	Gly	Thr	Arg	Val	Phe	Glu	Pro	Thr	Glu	Thr	Ile	
295					300					305					310	
aca	ctt	aat	ttt	atc	acc	ttc	agt	atg	ttg	gat	gat	act	aaa	att	tct	1015
Thr	Leu	Asn	Phe	Ile	Thr	Phe	Ser	Met	Leu	Asp	Asp	Thr	Lys	Ile	Ser	
				315					320					325		
cca	aag	gat	atg	aat	tta	ctg	gac	aaa	agc	agt	gat	gac	atc	agt	gtt	1063
Pro	Lys	Asp	Met	Asn	Leu	Leu	Asp	Lys	Ser	Ser	Asp	Asp	Ile	Ser	Val	
			330					335					340			
aat	gac	cct	gag	cac	aat	gag	gcc	tgg	gag	ccg	cac	tgg	gag	gag	gtg	1111
Asn	Asp	Pro	Glu	His	Asn	Glu	Ala	Trp	Glu	Pro	His	Trp	Glu	Glu	Val	
		345					350					355				
gag	ggg	caa	cat	tta	gga	tgc	tct	tcg	cat	ttg	atg	gac	gct	gtc	tgt	1159
Glu	Gly	Gln	His	Leu	Gly	Cys	Ser	Ser	His	Leu	Met	Asp	Ala	Val	Cys	
	360					365					370					
ggt	gct	gag	caa	aga	gac	gga	gac	acc	tcc	cta	acc	cag	cat	ggg	tgg	1207
Gly	Ala	Glu	Gln	Arg	Asp	Gly	Asp	Thr	Ser	Leu	Thr	Gln	His	Gly	Trp	
375					380					385					390	

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Leu Asn Ser Thr Ile Pro Thr Gly Glu Thr Asp Thr Glu Pro Gln Tyr	
395 400 405	
aaa gtc cta agt gac ttc tac ggg gag ggt gaa atc caa ctg tcc tgt	1303
Lys Val Leu Ser Asp Phe Tyr Gly Glu Gly Glu Ile Gln Leu Ser Cys	
410 415 420	
gag ccg gaa gag gcg gcc aga aca gag aaa ata tct gag cca ctg gtg	1351
Glu Pro Glu Glu Ala Ala Arg Thr Glu Lys Ile Ser Glu Pro Leu Val	
425 430 435	
act tca gca aac ttg gac cca cag ctt gaa gac cta cat cac ctg ggt	1399
Thr Ser Ala Asn Leu Asp Pro Gln Leu Glu Asp Leu His His Leu Gly	
440 445 450	
cag gag cat act gtc tcc gag gat ggg cca gag gaa gag aca tct ata	1447
Gln Glu His Thr Val Ser Glu Asp Gly Pro Glu Glu Glu Thr Ser Ile	
455 460 465 470	
aca gta gtg gat tgg gac cct caa act ggc agg ctg tgt atc cct tcc	1495
Thr Val Val Asp Trp Asp Pro Gln Thr Gly Arg Leu Cys Ile Pro Ser	
475 480 485	
tta cct atc ttt ggc cgt gat cct gag aac tat ggt cat tat gag aga	1543
Leu Pro Ile Phe Gly Arg Asp Pro Glu Asn Tyr Gly His Tyr Glu Arg	
490 495 500	
gac cag ctc tta gag ggt ggc ctt ttg tct aga ctc tat gag aac cag	1591
Asp Gln Leu Leu Glu Gly Gly Leu Leu Ser Arg Leu Tyr Glu Asn Gln	
505 510 515	
gca cct gac aag cca gag aaa gaa aat gaa aac tgt ctc aca cgg ttt	1639
Ala Pro Asp Lys Pro Glu Lys Glu Asn Glu Asn Cys Leu Thr Arg Phe	
520 525 530	
atg gag gaa tgg ggg tta cat gta caa atg gaa agc tagtgccagg	1685
Met Glu Glu Trp Gly Leu His Val Gln Met Glu Ser	
535 540 545	
ctttctgttg actgccaaca aatgaaggaa ccatcccagg gggatgaacag tgttcaggtt	1745
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c	1806

<213> Mus musculus

<400> 37

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Ala Asn Leu Val Leu Ile Tyr Arg Asn Glu Ile Gly Thr Arg Val Phe
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 Glu Pro Thr Glu Thr Ile Thr Leu Asn Phe Ile Thr Phe Ser Met Leu
 305 310 315 320
 Asp Asp Thr Lys Ile Ser Pro Lys Asp Met Asn Leu Leu Asp Lys Ser
 325 330 335
 Ser Asp Asp Ile Ser Val Asn Asp Pro Glu His Asn Glu Ala Trp Glu
 340 345 350
 Pro His Trp Glu Glu Val Glu Gly Gln His Leu Gly Cys Ser Ser His
 355 360 365
 Leu Met Asp Ala Val Cys Gly Ala Glu Gln Arg Asp Gly Asp Thr Ser
 370 375 380
 Leu Thr Gln His Gly Trp Leu Asn Ser Thr Ile Pro Thr Gly Glu Thr
 385 390 395 400
 Asp Thr Glu Pro Gln Tyr Lys Val Leu Ser Asp Phe Tyr Gly Glu Gly
 405 410 415
 Glu Ile Gln Leu Ser Cys Glu Pro Glu Glu Ala Ala Arg Thr Glu Lys
 420 425 430
 Ile Ser Glu Pro Leu Val Thr Ser Ala Asn Leu Asp Pro Gln Leu Glu
 435 440 445
 Asp Leu His His Leu Gly Gln Glu His Thr Val Ser Glu Asp Gly Pro
 450 455 460
 Glu Glu Glu Thr Ser Ile Thr Val Val Asp Trp Asp Pro Gln Thr Gly
 465 470 475 480
 Arg Leu Cys Ile Pro Ser Leu Pro Ile Phe Gly Arg Asp Pro Glu Asn
 485 490 495
 Tyr Gly His Tyr Glu Arg Asp Gln Leu Leu Glu Gly Gly Leu Leu Ser
 500 505 510
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 515 520 525
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 Glu Ser
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Leu	His	Gly	Val	Glu	Val	Thr	Tyr	Thr	Val	Gln	Tyr	Phe	Ile	Tyr	Gly
		35					40					45			
Gln	Lys	Lys	Trp	Leu	Asn	Ala	Ser	Lys	Cys	Gly	Ser	Ile	Asn	Arg	Thr
	50					55					60				
Tyr	Cys	Asp	Leu	Ser	Val	Glu	Thr	Ser	Asp	Tyr	Glu	His	Gln	Phe	Tyr
65					70					75				80	
Ala	Lys	Val	Lys	Ala	Ile	Trp	Glu	Ala	Arg	Cys	Ser	Glu	Trp	Ala	Glu
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Thr	Glu	Arg	Phe	Tyr	Pro	Phe	Leu	Glu	Thr	Gln	Val	Ser	Pro	Pro	Glu
			100					105					110		
Ile	Ala	Leu	Thr	Thr	Gly	Glu	Lys	Ser	Ile	Ser	Ile	Ala	Leu	Thr	Ala
		115					120					125			
Pro	Glu	Lys	Trp	Lys	Arg	Asn	Pro	Gln	Asp	His	Thr	Val	Ser	Met	Gln
		130				135						140			
Gln	Ile	Tyr	Pro	Asn	Leu	Lys	Tyr	Asn	Val	Ser	Val	Tyr	Asn	Thr	Lys
145					150					155				160	
Ser	Arg	Arg	Thr	Trp	Ser	Gln	Cys	Val	Thr	Asn	Ser	Thr	Leu	Val	Leu
				165					170					175	
Ser	Trp	Leu	Glu	Pro	Asn	Thr	Leu	Tyr	Cys	Val	His	Val	Glu	Ser	Leu
			180					185					190		
Val	Pro	Gly	Pro	Pro	Arg	Leu	Pro	Met	Pro	Ser	Gln	Lys	Gln	Cys	Ile
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Ser	Thr	Leu	Glu	Val	Gln	Thr	Ser	Ala							
	210					215									

<210> 39

<211> 514

<212> PRT

<213> Mus musculus

<400> 39

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			20					25					30		
Leu	His	Gly	Val	Glu	Val	Thr	Tyr	Thr	Val	Gln	Tyr	Phe	Ile	Tyr	Gly
		35					40					45			
Gln	Lys	Lys	Trp	Leu	Asn	Ala	Ser	Lys	Cys	Gly	Ser	Ile	Asn	Arg	Thr
	50					55					60				
Tyr	Cys	Asp	Leu	Ser	Val	Glu	Thr	Ser	Asp	Tyr	Glu	His	Gln	Phe	Tyr
65					70					75				80	

Ala	Lys	Val	Lys	Ala	Ile	Trp	Glu	Ala	Arg	Cys	Ser	Glu	Trp	Ala	Glu
			85					90						95	
Thr	Glu	Arg	Phe	Tyr	Pro	Phe	Leu	Glu	Thr	Gln	Val	Ser	Pro	Pro	Glu
			100					105					110		
Ile	Ala	Leu	Thr	Thr	Gly	Glu	Lys	Ser	Ile	Ser	Ile	Ala	Leu	Thr	Ala
		115					120					125			
Pro	Glu	Lys	Trp	Lys	Arg	Asn	Pro	Gln	Asp	His	Thr	Val	Ser	Met	Gln
	130					135				140					
Gln	Ile	Tyr	Pro	Asn	Leu	Lys	Tyr	Asn	Val	Ser	Val	Tyr	Asn	Thr	Lys
145					150					155					160
Ser	Arg	Arg	Thr	Trp	Ser	Gln	Cys	Val	Thr	Asn	Ser	Thr	Leu	Val	Leu
			165					170						175	
Ser	Trp	Leu	Glu	Pro	Asn	Thr	Leu	Tyr	Cys	Val	His	Val	Glu	Ser	Leu
		180						185					190		
Val	Pro	Gly	Pro	Pro	Arg	Leu	Pro	Met	Pro	Ser	Gln	Lys	Gln	Cys	Ile
		195					200					205			
Ser	Thr	Leu	Glu	Val	Gln	Thr	Ser	Ala	Trp	Lys	Ala	Lys	Val	Ile	Phe
	210					215					220				
Trp	Tyr	Val	Phe	Leu	Thr	Ser	Val	Ile	Val	Phe	Leu	Phe	Ser	Ala	Ile
225					230					235					240
Gly	Tyr	Leu	Val	Tyr	Arg	Tyr	Ile	His	Val	Gly	Lys	Glu	Lys	His	Pro
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Ala	Asn	Leu	Val	Leu	Ile	Tyr	Arg	Asn	Glu	Ile	Gly	Thr	Arg	Val	Phe
		260						265					270		
Glu	Pro	Thr	Glu	Thr	Ile	Thr	Leu	Asn	Phe	Ile	Thr	Phe	Ser	Met	Leu
		275					280					285			
Asp	Asp	Thr	Lys	Ile	Ser	Pro	Lys	Asp	Met	Asn	Leu	Leu	Asp	Lys	Ser
	290					295					300				
Ser	Asp	Asp	Ile	Ser	Val	Asn	Asp	Pro	Glu	His	Asn	Glu	Ala	Trp	Glu
305				310						315					320
Pro	His	Trp	Glu	Glu	Val	Glu	Gly	Gln	His	Leu	Gly	Cys	Ser	Ser	His
			325					330						335	
Leu	Met	Asp	Ala	Val	Cys	Gly	Ala	Glu	Gln	Arg	Asp	Gly	Asp	Thr	Ser
		340						345					350		
Leu	Thr	Gln	His	Gly	Trp	Leu	Asn	Ser	Thr	Ile	Pro	Thr	Gly	Glu	Thr
		355					360					365			
Asp	Thr	Glu	Pro	Gln	Tyr	Lys	Val	Leu	Ser	Asp	Phe	Tyr	Gly	Glu	Gly
	370					375					380				
Glu	Ile	Gln	Leu	Ser	Cys	Glu	Pro	Glu	Glu	Ala	Ala	Arg	Thr	Glu	Lys
385				390						395					400
Ile	Ser	Glu	Pro	Leu	Val	Thr	Ser	Ala	Asn	Leu	Asp	Pro	Gln	Leu	Glu
			405						410					415	

Asp Leu His His Leu Gly Gln Glu His Thr Val Ser Glu Asp Gly Pro
 420 425 430
 Glu Glu Glu Thr Ser Ile Thr Val Val Asp Trp Asp Pro Gln Thr Gly
 435 440 445
 Arg Leu Cys Ile Pro Ser Leu Pro Ile Phe Gly Arg Asp Pro Glu Asn
 450 455 460
 Tyr Gly His Tyr Glu Arg Asp Gln Leu Leu Glu Gly Gly Leu Leu Ser
 465 470 475 480
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 485 490 495
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 Glu Ser

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<210> 41
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<400> 41
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<210> 51
<211> 86
<212> DNA
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gccacagtgg cctctccttg cacctc 86

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ctg gcg gcg cct tgg gga cgg gca gtt ccc tgt gtc tct ggt ggt ttg 96
Leu Ala Ala Pro Trp Gly Arg Ala Val Pro Cys Val Ser Gly Gly Leu
20 25 30

cct aaa cct gca aac atc acc ttc tta tcc atc aac atg aag aat gtc Pro Lys Pro Ala Asn Ile Thr Phe Leu Ser Ile Asn Met Lys Asn Val 35 40 45	144
cta caa tgg act cca cca gag ggt ctt caa gga gtt aaa gtt act tac Leu Gln Trp Thr Pro Pro Glu Gly Leu Gln Gly Val Lys Val Thr Tyr 50 55 60	192
act gtg cag tat ttc ata tat ggg caa aag aaa tgg ctg aat aaa tca Thr Val Gln Tyr Phe Ile Tyr Gly Gln Lys Lys Trp Leu Asn Lys Ser 65 70 75 80	240
gaa tgc aga aat atc aat aga acc tac tgt gat ctt tct gct gaa act Glu Cys Arg Asn Ile Asn Arg Thr Tyr Cys Asp Leu Ser Ala Glu Thr 85 90 95	288
tct gac tac gaa cac cag tat tat gcc aaa gtt aag gcc att tgg gga Ser Asp Tyr Glu His Gln Tyr Tyr Ala Lys Val Lys Ala Ile Trp Gly 100 105 110	336
aca aag tgt tcc aaa tgg gct gaa agt gga cgg ttc tat cct ttt tta Thr Lys Cys Ser Lys Trp Ala Glu Ser Gly Arg Phe Tyr Pro Phe Leu 115 120 125	384
gaa aca caa att ggc cca cca gag gtg gca ctg act aca gat gag aag Glu Thr Gln Ile Gly Pro Pro Glu Val Ala Leu Thr Thr Asp Glu Lys 130 135 140	432
tcc att tct gtt gtc ctg aca gct cca gag aag tgg aag aga aat cca Ser Ile Ser Val Val Leu Thr Ala Pro Glu Lys Trp Lys Arg Asn Pro 145 150 155 160	480
gaa gac ctt cct gtt tcc atg caa caa ata tac tcc aat ctg aag tat Glu Asp Leu Pro Val Ser Met Gln Gln Ile Tyr Ser Asn Leu Lys Tyr 165 170 175	528
aac gtg tct gtg ttg aat act aaa tca aac aga acg tgg tcc cag tgt Asn Val Ser Val Leu Asn Thr Lys Ser Asn Arg Thr Trp Ser Gln Cys 180 185 190	576
gtg acc aac cac acg ctg gtg ctc acc tgg ctg gag ccg aac act ctt Val Thr Asn His Thr Leu Val Leu Thr Trp Leu Glu Pro Asn Thr Leu 195 200 205	624

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cag cct tct gag aag cag tgt gcc agg act ttg aaa gat caa tca tca Gln Pro Ser Glu Lys Gln Cys Ala Arg Thr Leu Lys Asp Gln Ser Ser 225 230 235 240	720
gag gct agc acc aag ggc cca tcg gtc ttc ccc ctg gca ccc tcc tcc Glu Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser 245 250 255	768
aag agc acc tct ggg ggc aca gcg gcc ctg ggc tgc ctg gtc aag gac Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp 260 265 270	816
tac ttc ccc gaa ccg gtg acg gtg tcg tgg aac tca ggc gcc ctg acc Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr 275 280 285	864
agc ggc gtg cac acc ttc ccg gct gtc cta cag tcc tca gga ctc tac Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr 290 295 300	912
tcc ctc agc agc gtg gtg acc gtg ccc tcc agc agc ttg ggc acc cag Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln 305 310 315 320	960
acc tac atc tgc aac gtg aat cac aag ccc agc aac acc aag gtg gac Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp 325 330 335	1008
aag aaa gtt gag ccc aaa tct tgt gac aaa act cac aca tgc cca ccg Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro 340 345 350	1056
tgc cca gca cct gaa ctc ctg ggg gga ccg tca gtc ttc ctc ttc ccc Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro 355 360 365	1104
cca aaa ccc aag gac acc ctc atg atc tcc cgg acc cct gag gtc aca	1152

Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr		
370						375					380						
tgc	gtg	gtg	gtg	gac	gtg	agc	cac	gaa	gac	cct	gag	gtc	aag	ttc	aac	1200	
Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	Lys	Phe	Asn		
385					390					395					400		
tgg	tac	gtg	gac	ggc	gtg	gag	gtg	cat	aat	gcc	aag	aca	aag	ccg	cgg	1248	
Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg		
				405					410					415			
gag	gag	cag	tac	aac	agc	acg	tac	cgt	gtg	gtc	agc	gtc	ctc	acc	gtc	1296	
Glu	Glu	Gln	Tyr	Asn	Ser	Thr	Tyr	Arg	Val	Val	Ser	Val	Leu	Thr	Val		
			420					425					430				
ctg	cac	cag	gac	tgg	ctg	aat	ggc	aag	gag	tac	aag	tgc	aag	gtc	tcc	1344	
Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser		
		435					440					445					
aac	aaa	gcc	ctc	cca	gcc	ccc	atc	gag	aaa	acc	atc	tcc	aaa	gcc	aaa	1392	
Asn	Lys	Ala	Leu	Pro	Ala	Pro	Ile	Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys		
	450					455					460						
ggg	cag	ccc	cga	gaa	cca	cag	gtg	tac	acc	ctg	ccc	cca	tcc	cgg	gat	1440	
Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu	Pro	Pro	Ser	Arg	Asp		
465					470					475					480		
gag	ctg	acc	aag	aac	cag	gtc	agc	ctg	acc	tgc	ctg	gtc	aaa	ggc	ttc	1488	
Glu	Leu	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu	Val	Lys	Gly	Phe		
				485					490					495			
tat	ccc	agc	gac	atc	gcc	gtg	gag	tgg	gag	agc	aat	ggg	cag	ccg	gag	1536	
Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu		
			500					505					510				
aac	aac	tac	aag	acc	acg	cct	ccc	gtg	ctg	gac	tcc	gac	ggc	tcc	ttc	1584	
Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe		
		515					520					525					
ttc	ctc	tac	agc	aag	ctc	acc	gtg	gac	aag	agc	agg	tgg	cag	cag	ggg	1632	
Phe	Leu	Tyr	Ser	Lys	Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly		
	530					535					540						

aac gtc ttc tca tgc tcc gtg atg cat gag gct ctg cac aac cac tac 1680
Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr
545 550 555 560

acg cag aag agc ctc tcc ctg tct ccg ggt aaa tgacgcg 1720
Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
565 570

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<211> 571
<212> PRT
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			20					25					30			
Pro	Lys	Pro	Ala	Asn	Ile	Thr	Phe	Leu	Ser	Ile	Asn	Met	Lys	Asn	Val	
		35					40					45				
Leu	Gln	Trp	Thr	Pro	Pro	Glu	Gly	Leu	Gln	Gly	Val	Lys	Val	Thr	Tyr	
	50					55					60					
Thr	Val	Gln	Tyr	Phe	Ile	Tyr	Gly	Gln	Lys	Lys	Trp	Leu	Asn	Lys	Ser	
65					70					75					80	
Glu	Cys	Arg	Asn	Ile	Asn	Arg	Thr	Tyr	Cys	Asp	Leu	Ser	Ala	Glu	Thr	
			85						90					95		
Ser	Asp	Tyr	Glu	His	Gln	Tyr	Tyr	Ala	Lys	Val	Lys	Ala	Ile	Trp	Gly	
			100					105					110			
Thr	Lys	Cys	Ser	Lys	Trp	Ala	Glu	Ser	Gly	Arg	Phe	Tyr	Pro	Phe	Leu	
		115					120					125				
Glu	Thr	Gln	Ile	Gly	Pro	Pro	Glu	Val	Ala	Leu	Thr	Thr	Asp	Glu	Lys	
	130					135					140					
Ser	Ile	Ser	Val	Val	Leu	Thr	Ala	Pro	Glu	Lys	Trp	Lys	Arg	Asn	Pro	
145					150				155						160	
Glu	Asp	Leu	Pro	Val	Ser	Met	Gln	Gln	Ile	Tyr	Ser	Asn	Leu	Lys	Tyr	
			165						170					175		
Asn	Val	Ser	Val	Leu	Asn	Thr	Lys	Ser	Asn	Arg	Thr	Trp	Ser	Gln	Cys	
			180					185					190			
Val	Thr	Asn	His	Thr	Leu	Val	Leu	Thr	Trp	Leu	Glu	Pro	Asn	Thr	Leu	
		195					200					205				
Tyr	Cys	Val	His	Val	Glu	Ser	Phe	Val	Pro	Gly	Pro	Pro	Arg	Arg	Ala	
	210					215					220					

Gln	Pro	Ser	Glu	Lys	Gln	Cys	Ala	Arg	Thr	Leu	Lys	Asp	Gln	Ser	Ser	225	230	235	240
Glu	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro	Ser	Ser	245	250	255	
Lys	Ser	Thr	Ser	Gly	Gly	Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	260	265	270	
Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	275	280	285	
Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	290	295	300	
Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro	Ser	Ser	Ser	Leu	Gly	Thr	Gln	305	310	315	320
Thr	Tyr	Ile	Cys	Asn	Val	Asn	His	Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	325	330	335	
Lys	Lys	Val	Glu	Pro	Lys	Ser	Cys	Asp	Lys	Thr	His	Thr	Cys	Pro	Pro	340	345	350	
Cys	Pro	Ala	Pro	Glu	Leu	Leu	Gly	Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro	355	360	365	
Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	370	375	380	
Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	Lys	Phe	Asn	385	390	395	400
Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg	405	410	415	
Glu	Glu	Gln	Tyr	Asn	Ser	Thr	Tyr	Arg	Val	Val	Ser	Val	Leu	Thr	Val	420	425	430	
Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser	435	440	445	
Asn	Lys	Ala	Leu	Pro	Ala	Pro	Ile	Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys	450	455	460	
Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu	Pro	Pro	Ser	Arg	Asp	465	470	475	480
Glu	Leu	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu	Val	Lys	Gly	Phe	485	490	495	
Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu	500	505	510	
Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe	515	520	525	
Phe	Leu	Tyr	Ser	Lys	Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly	530	535	540	
Asn	Val	Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala	Leu	His	Asn	His	Tyr	545	550	555	560

Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
565 570

<210> 54
<211> 547
<212> PRT
<213> Homo sapiens

<400> 54
Val Pro Cys Val Ser Gly Gly Leu Pro Lys Pro Ala Asn Ile Thr Phe
1 5 10 15
Leu Ser Ile Asn Met Lys Asn Val Leu Gln Trp Thr Pro Pro Glu Gly
20 25 30
Leu Gln Gly Val Lys Val Thr Tyr Thr Val Gln Tyr Phe Ile Tyr Gly
35 40 45
Gln Lys Lys Trp Leu Asn Lys Ser Glu Cys Arg Asn Ile Asn Arg Thr
50 55 60
Tyr Cys Asp Leu Ser Ala Glu Thr Ser Asp Tyr Glu His Gln Tyr Tyr
65 70 75 80
Ala Lys Val Lys Ala Ile Trp Gly Thr Lys Cys Ser Lys Trp Ala Glu
85 90 95
Ser Gly Arg Phe Tyr Pro Phe Leu Glu Thr Gln Ile Gly Pro Pro Glu
100 105 110
Val Ala Leu Thr Thr Asp Glu Lys Ser Ile Ser Val Val Leu Thr Ala
115 120 125
Pro Glu Lys Trp Lys Arg Asn Pro Glu Asp Leu Pro Val Ser Met Gln
130 135 140
Gln Ile Tyr Ser Asn Leu Lys Tyr Asn Val Ser Val Leu Asn Thr Lys
145 150 155 160
Ser Asn Arg Thr Trp Ser Gln Cys Val Thr Asn His Thr Leu Val Leu
165 170 175
Thr Trp Leu Glu Pro Asn Thr Leu Tyr Cys Val His Val Glu Ser Phe
180 185 190
Val Pro Gly Pro Pro Arg Arg Ala Gln Pro Ser Glu Lys Gln Cys Ala
195 200 205
Arg Thr Leu Lys Asp Gln Ser Ser Glu Ala Ser Thr Lys Gly Pro Ser
210 215 220
Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
225 230 235 240
Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
245 250 255
Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
260 265 270

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
275 280 285
Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
290 295 300
Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys
305 310 315 320
Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
325 330 335
Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
340 345 350
Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
355 360 365
Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
370 375 380
His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
385 390 395 400
Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
405 410 415
Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
420 425 430
Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
435 440 445
Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser
450 455 460
Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
465 470 475 480
Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
485 490 495
Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
500 505 510
Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
515 520 525
His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
530 535 540
Pro Gly Lys
545

<210> 55
<211> 217
<212> PRT
<213> Homo sapiens

<400> 55

Val	Pro	Cys	Val	Ser	Gly	Gly	Leu	Pro	Lys	Pro	Ala	Asn	Ile	Thr	Phe
1				5				10					15		
Leu	Ser	Ile	Asn	Met	Lys	Asn	Val	Leu	Gln	Trp	Thr	Pro	Pro	Glu	Gly
			20					25					30		
Leu	Gln	Gly	Val	Lys	Val	Thr	Tyr	Thr	Val	Gln	Tyr	Phe	Ile	Tyr	Gly
		35					40					45			
Gln	Lys	Lys	Trp	Leu	Asn	Lys	Ser	Glu	Cys	Arg	Asn	Ile	Asn	Arg	Thr
	50					55				60					
Tyr	Cys	Asp	Leu	Ser	Ala	Glu	Thr	Ser	Asp	Tyr	Glu	His	Gln	Tyr	Tyr
65					70				75					80	
Ala	Lys	Val	Lys	Ala	Ile	Trp	Gly	Thr	Lys	Cys	Ser	Lys	Trp	Ala	Glu
				85					90					95	
Ser	Gly	Arg	Phe	Tyr	Pro	Phe	Leu	Glu	Thr	Gln	Ile	Gly	Pro	Pro	Glu
			100					105					110		
Val	Ala	Leu	Thr	Thr	Asp	Glu	Lys	Ser	Ile	Ser	Val	Val	Leu	Thr	Ala
		115					120					125			
Pro	Glu	Lys	Trp	Lys	Arg	Asn	Pro	Glu	Asp	Leu	Pro	Val	Ser	Met	Gln
	130					135					140				
Gln	Ile	Tyr	Ser	Asn	Leu	Lys	Tyr	Asn	Val	Ser	Val	Leu	Asn	Thr	Lys
145					150					155				160	
Ser	Asn	Arg	Thr	Trp	Ser	Gln	Cys	Val	Thr	Asn	His	Thr	Leu	Val	Leu
				165					170					175	
Thr	Trp	Leu	Glu	Pro	Asn	Thr	Leu	Tyr	Cys	Val	His	Val	Glu	Ser	Phe
		180					185						190		
Val	Pro	Gly	Pro	Pro	Arg	Arg	Ala	Gln	Pro	Ser	Glu	Lys	Gln	Cys	Ala
		195					200					205			
Arg	Thr	Leu	Lys	Asp	Gln	Ser	Ser	Glu							
	210					215									

<210> 56
 <211> 1011
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)...(1008)

<400> 56

atg	cag	act	ttc	aca	atg	gtt	cta	gaa	gaa	atc	tgg	aca	agt	ctt	ttc
Met	Gln	Thr	Phe	Thr	Met	Val	Leu	Glu	Glu	Ile	Trp	Thr	Ser	Leu	Phe
1				5				10					15		

atg tgg ttt ttc tac gca ttg att cca tgt ttg ctc aca gat gaa gtg	96
Met Trp Phe Phe Tyr Ala Leu Ile Pro Cys Leu Leu Thr Asp Glu Val	
20 25 30	
gcc att ctg cct gcc cct cag aac ctc tct gta ctc tca acc aac atg	144
Ala Ile Leu Pro Ala Pro Gln Asn Leu Ser Val Leu Ser Thr Asn Met	
35 40 45	
aag cat ctc ttg atg tgg agc cca gtg atc gcg cct gga gaa aca gtg	192
Lys His Leu Leu Met Trp Ser Pro Val Ile Ala Pro Gly Glu Thr Val	
50 55 60	
tac tat tct gtc gaa tac cag ggg gag tac gag agc ctg tac acg agc	240
Tyr Tyr Ser Val Glu Tyr Gln Gly Glu Tyr Glu Ser Leu Tyr Thr Ser	
65 70 75 80	
cac atc tgg atc ccc agc agc tgg tgc tca ctc act gaa ggt cct gag	288
His Ile Trp Ile Pro Ser Ser Trp Cys Ser Leu Thr Glu Gly Pro Glu	
85 90 95	
tgt gat gtc act gat gac atc acg gcc act gtg cca tac aac ctt cgt	336
Cys Asp Val Thr Asp Asp Ile Thr Ala Thr Val Pro Tyr Asn Leu Arg	
100 105 110	
gtc agg gcc aca ttg ggc tca cag acc tca gcc tgg agc atc ctg aag	384
Val Arg Ala Thr Leu Gly Ser Gln Thr Ser Ala Trp Ser Ile Leu Lys	
115 120 125	
cat ccc ttt aat aga aac tca acc atc ctt acc cga cct ggg atg gag	432
His Pro Phe Asn Arg Asn Ser Thr Ile Leu Thr Arg Pro Gly Met Glu	
130 135 140	
atc acc aaa gat ggc ttc cac ctg gtt att gag ctg gag gac ctg ggg	480
Ile Thr Lys Asp Gly Phe His Leu Val Ile Glu Leu Glu Asp Leu Gly	
145 150 155 160	
ccc cag ttt gag ttc ctt gtg gcc tac tgg agg agg gag cct ggt gcc	528
Pro Gln Phe Glu Phe Leu Val Ala Tyr Trp Arg Arg Glu Pro Gly Ala	
165 170 175	
gag gaa cat gtc aaa atg gtg agg agt ggg ggt att cca gtg cac cta	576
Glu Glu His Val Lys Met Val Arg Ser Gly Gly Ile Pro Val His Leu	
180 185 190	

gaa acc atg gag cca ggg gct gca tac tgt gtg aag gcc cag aca ttc Glu Thr Met Glu Pro Gly Ala Ala Tyr Cys Val Lys Ala Gln Thr Phe 195 200 205	624
gtg aag gcc att ggg agg tac agc gcc ttc agc cag aca gaa tgt gtg Val Lys Ala Ile Gly Arg Tyr Ser Ala Phe Ser Gln Thr Glu Cys Val 210 215 220	672
gag gtg caa gga gag gcc act gtg gct gca cca tct gtc ttc atc ttc Glu Val Gln Gly Glu Ala Thr Val Ala Ala Pro Ser Val Phe Ile Phe 225 230 235 240	720
ccg cca tct gat gag cag ttg aaa tct ggt acc gcc tct gtt gtg tgc Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys 245 250 255	768
ctg ctg aat aac ttc tat ccc aga gag gcc aaa gta cag tgg aag gtg Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val 260 265 270	816
gat aac gcc ctc caa tcg ggt aac tcc cag gag agt gtc aca gag cag Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln 275 280 285	864
gac agc aag gac agc acc tac agc ctc agc agc acc ctg acg ctg agc Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser 290 295 300	912
aaa gca gac tac gag aaa cac aaa gtc tac gcc tgc gaa gtc acc cat Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His 305 310 315 320	960
cag ggc ctg agc tcg ccc gtc aca aag agc ttc aac agg gga gag tgt Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys 325 330 335	1008
tag	1011

<210> 57
 <211> 336
 <212> PRT
 <213> Homo sapiens

<400> 57

Met	Gln	Thr	Phe	Thr	Met	Val	Leu	Glu	Glu	Ile	Trp	Thr	Ser	Leu	Phe
1				5				10						15	
Met	Trp	Phe	Phe	Tyr	Ala	Leu	Ile	Pro	Cys	Leu	Leu	Thr	Asp	Glu	Val
			20					25					30		
Ala	Ile	Leu	Pro	Ala	Pro	Gln	Asn	Leu	Ser	Val	Leu	Ser	Thr	Asn	Met
		35					40					45			
Lys	His	Leu	Leu	Met	Trp	Ser	Pro	Val	Ile	Ala	Pro	Gly	Glu	Thr	Val
	50					55					60				
Tyr	Tyr	Ser	Val	Glu	Tyr	Gln	Gly	Glu	Tyr	Glu	Ser	Leu	Tyr	Thr	Ser
65				70						75					80
His	Ile	Trp	Ile	Pro	Ser	Ser	Trp	Cys	Ser	Leu	Thr	Glu	Gly	Pro	Glu
				85					90					95	
Cys	Asp	Val	Thr	Asp	Asp	Ile	Thr	Ala	Thr	Val	Pro	Tyr	Asn	Leu	Arg
			100					105					110		
Val	Arg	Ala	Thr	Leu	Gly	Ser	Gln	Thr	Ser	Ala	Trp	Ser	Ile	Leu	Lys
		115					120					125			
His	Pro	Phe	Asn	Arg	Asn	Ser	Thr	Ile	Leu	Thr	Arg	Pro	Gly	Met	Glu
	130					135					140				
Ile	Thr	Lys	Asp	Gly	Phe	His	Leu	Val	Ile	Glu	Leu	Glu	Asp	Leu	Gly
145				150						155					160
Pro	Gln	Phe	Glu	Phe	Leu	Val	Ala	Tyr	Trp	Arg	Arg	Glu	Pro	Gly	Ala
			165					170					175		
Glu	Glu	His	Val	Lys	Met	Val	Arg	Ser	Gly	Gly	Ile	Pro	Val	His	Leu
			180					185					190		
Glu	Thr	Met	Glu	Pro	Gly	Ala	Ala	Tyr	Cys	Val	Lys	Ala	Gln	Thr	Phe
		195				200						205			
Val	Lys	Ala	Ile	Gly	Arg	Tyr	Ser	Ala	Phe	Ser	Gln	Thr	Glu	Cys	Val
	210					215					220				
Glu	Val	Gln	Gly	Glu	Ala	Thr	Val	Ala	Ala	Pro	Ser	Val	Phe	Ile	Phe
225				230						235					240
Pro	Pro	Ser	Asp	Glu	Gln	Leu	Lys	Ser	Gly	Thr	Ala	Ser	Val	Val	Cys
			245						250				255		
Leu	Leu	Asn	Asn	Phe	Tyr	Pro	Arg	Glu	Ala	Lys	Val	Gln	Trp	Lys	Val
			260					265					270		
Asp	Asn	Ala	Leu	Gln	Ser	Gly	Asn	Ser	Gln	Glu	Ser	Val	Thr	Glu	Gln
		275					280					285			
Asp	Ser	Lys	Asp	Ser	Thr	Tyr	Ser	Leu	Ser	Ser	Thr	Leu	Thr	Leu	Ser
	290					295					300				
Lys	Ala	Asp	Tyr	Glu	Lys	His	Lys	Val	Tyr	Ala	Cys	Glu	Val	Thr	His
305					310					315					320

Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330 335

<210> 58
 <211> 307
 <212> PRT
 <213> Homo sapiens

<400> 58
 Asp Glu Val Ala Ile Leu Pro Ala Pro Gln Asn Leu Ser Val Leu Ser
 1 5 10 15
 Thr Asn Met Lys His Leu Leu Met Trp Ser Pro Val Ile Ala Pro Gly
 20 25 30
 Glu Thr Val Tyr Tyr Ser Val Glu Tyr Gln Gly Glu Tyr Glu Ser Leu
 35 40 45
 Tyr Thr Ser His Ile Trp Ile Pro Ser Ser Trp Cys Ser Leu Thr Glu
 50 55 60
 Gly Pro Glu Cys Asp Val Thr Asp Asp Ile Thr Ala Thr Val Pro Tyr
 65 70 75 80
 Asn Leu Arg Val Arg Ala Thr Leu Gly Ser Gln Thr Ser Ala Trp Ser
 85 90 95
 Ile Leu Lys His Pro Phe Asn Arg Asn Ser Thr Ile Leu Thr Arg Pro
 100 105 110
 Gly Met Glu Ile Thr Lys Asp Gly Phe His Leu Val Ile Glu Leu Glu
 115 120 125
 Asp Leu Gly Pro Gln Phe Glu Phe Leu Val Ala Tyr Trp Arg Arg Glu
 130 135 140
 Pro Gly Ala Glu Glu His Val Lys Met Val Arg Ser Gly Gly Ile Pro
 145 150 155 160
 Val His Leu Glu Thr Met Glu Pro Gly Ala Ala Tyr Cys Val Lys Ala
 165 170 175
 Gln Thr Phe Val Lys Ala Ile Gly Arg Tyr Ser Ala Phe Ser Gln Thr
 180 185 190
 Glu Cys Val Glu Val Gln Gly Glu Ala Thr Val Ala Ala Pro Ser Val
 195 200 205
 Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser
 210 215 220
 Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln
 225 230 235 240
 Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val
 245 250 255
 Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu
 260 265 270

Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu
275 280 285
Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg
290 295 300
Gly Glu Cys
305

<210> 59
<211> 201
<212> PRT
<213> Homo sapiens

<400> 59
Asp Glu Val Ala Ile Leu Pro Ala Pro Gln Asn Leu Ser Val Leu Ser
1 5 10 15
Thr Asn Met Lys His Leu Leu Met Trp Ser Pro Val Ile Ala Pro Gly
20 25 30
Glu Thr Val Tyr Tyr Ser Val Glu Tyr Gln Gly Glu Tyr Glu Ser Leu
35 40 45
Tyr Thr Ser His Ile Trp Ile Pro Ser Ser Trp Cys Ser Leu Thr Glu
50 55 60
Gly Pro Glu Cys Asp Val Thr Asp Asp Ile Thr Ala Thr Val Pro Tyr
65 70 75 80
Asn Leu Arg Val Arg Ala Thr Leu Gly Ser Gln Thr Ser Ala Trp Ser
85 90 95
Ile Leu Lys His Pro Phe Asn Arg Asn Ser Thr Ile Leu Thr Arg Pro
100 105 110
Gly Met Glu Ile Thr Lys Asp Gly Phe His Leu Val Ile Glu Leu Glu
115 120 125
Asp Leu Gly Pro Gln Phe Glu Phe Leu Val Ala Tyr Trp Arg Arg Glu
130 135 140
Pro Gly Ala Glu Glu His Val Lys Met Val Arg Ser Gly Gly Ile Pro
145 150 155 160
Val His Leu Glu Thr Met Glu Pro Gly Ala Ala Tyr Cys Val Lys Ala
165 170 175
Gln Thr Phe Val Lys Ala Ile Gly Arg Tyr Ser Ala Phe Ser Gln Thr
180 185 190
Glu Cys Val Glu Val Gln Gly Glu Ala
195 200

<210> 60
<211> 323
<212> PRT

<213> Homo sapiens

<400> 60

Asp	Glu	Val	Ala	Ile	Leu	Pro	Ala	Pro	Gln	Asn	Leu	Ser	Val	Leu	Ser
1				5					10					15	
Thr	Asn	Met	Lys	His	Leu	Leu	Met	Trp	Ser	Pro	Val	Ile	Ala	Pro	Gly
			20					25					30		
Glu	Thr	Val	Tyr	Tyr	Ser	Val	Glu	Tyr	Gln	Gly	Glu	Tyr	Glu	Ser	Leu
		35					40					45			
Tyr	Thr	Ser	His	Ile	Trp	Ile	Pro	Ser	Ser	Trp	Cys	Ser	Leu	Thr	Glu
	50					55					60				
Gly	Pro	Glu	Cys	Asp	Val	Thr	Asp	Asp	Ile	Thr	Ala	Thr	Val	Pro	Tyr
65					70					75					80
Asn	Leu	Arg	Val	Arg	Ala	Thr	Leu	Gly	Ser	Gln	Thr	Ser	Ala	Trp	Ser
				85					90					95	
Ile	Leu	Lys	His	Pro	Phe	Asn	Arg	Asn	Ser	Thr	Ile	Leu	Thr	Arg	Pro
			100					105					110		
Gly	Met	Glu	Ile	Pro	Lys	His	Gly	Phe	His	Leu	Val	Ile	Glu	Leu	Glu
		115					120					125			
Asp	Leu	Gly	Pro	Gln	Phe	Glu	Phe	Leu	Val	Ala	Tyr	Trp	Thr	Arg	Glu
	130					135					140				
Pro	Gly	Ala	Glu	Glu	His	Val	Lys	Met	Val	Arg	Ser	Gly	Gly	Ile	Pro
145					150					155					160
Val	His	Leu	Glu	Thr	Met	Glu	Pro	Gly	Ala	Ala	Tyr	Cys	Val	Lys	Ala
				165					170					175	
Gln	Thr	Phe	Val	Lys	Ala	Ile	Gly	Arg	Tyr	Ser	Ala	Phe	Ser	Gln	Thr
		180						185					190		
Glu	Cys	Val	Glu	Val	Gln	Gly	Glu	Ala	Gly	Gly	Gly	Gly	Ser	Gly	Gly
	195					200					205				
Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Arg	Thr	Val	Ala	Ala	Pro	Ser	Val
	210					215					220				
Phe	Ile	Phe	Pro	Pro	Ser	Asp	Glu	Gln	Leu	Lys	Ser	Gly	Thr	Ala	Ser
225					230					235					240
Val	Val	Cys	Leu	Leu	Asn	Asn	Phe	Tyr	Pro	Arg	Glu	Ala	Lys	Val	Gln
			245						250					255	
Trp	Lys	Val	Asp	Asn	Ala	Leu	Gln	Ser	Gly	Asn	Ser	Gln	Glu	Ser	Val
		260						265					270		
Thr	Glu	Gln	Asp	Ser	Lys	Asp	Ser	Thr	Tyr	Ser	Leu	Ser	Ser	Thr	Leu
	275					280						285			
Thr	Leu	Ser	Lys	Ala	Asp	Tyr	Glu	Lys	His	Lys	Val	Tyr	Ala	Cys	Glu
	290				295						300				
Val	Thr	His	Gln	Gly	Leu	Ser	Ser	Pro	Val	Thr	Lys	Ser	Phe	Asn	Arg
305					310					315					320

Gly Glu Cys

<210> 61
<211> 201
<212> PRT
<213> Homo sapiens

<400> 61
Asp Glu Val Ala Ile Leu Pro Ala Pro Gln Asn Leu Ser Val Leu Ser
1 5 10 15
Thr Asn Met Lys His Leu Leu Met Trp Ser Pro Val Ile Ala Pro Gly
20 25 30
Glu Thr Val Tyr Tyr Ser Val Glu Tyr Gln Gly Glu Tyr Glu Ser Leu
35 40 45
Tyr Thr Ser His Ile Trp Ile Pro Ser Ser Trp Cys Ser Leu Thr Glu
50 55 60
Gly Pro Glu Cys Asp Val Thr Asp Asp Ile Thr Ala Thr Val Pro Tyr
65 70 75 80
Asn Leu Arg Val Arg Ala Thr Leu Gly Ser Gln Thr Ser Ala Trp Ser
85 90 95
Ile Leu Lys His Pro Phe Asn Arg Asn Ser Thr Ile Leu Thr Arg Pro
100 105 110
Gly Met Glu Ile Pro Lys His Gly Phe His Leu Val Ile Glu Leu Glu
115 120 125
Asp Leu Gly Pro Gln Phe Glu Phe Leu Val Ala Tyr Trp Thr Arg Glu
130 135 140
Pro Gly Ala Glu Glu His Val Lys Met Val Arg Ser Gly Gly Ile Pro
145 150 155 160
Val His Leu Glu Thr Met Glu Pro Gly Ala Ala Tyr Cys Val Lys Ala
165 170 175
Gln Thr Phe Val Lys Ala Ile Gly Arg Tyr Ser Ala Phe Ser Gln Thr
180 185 190
Glu Cys Val Glu Val Gln Gly Glu Ala
195 200

<210> 62
<211> 559
<212> PRT
<213> Homo sapiens

<400> 62
Val Pro Cys Val Ser Gly Gly Leu Pro Lys Pro Ala Asn Ile Thr Phe
1 5 10 15

Leu	Ser	Ile	Asn	Met	Lys	Asn	Val	Leu	Gln	Trp	Thr	Pro	Pro	Glu	Gly
			20					25					30		
Leu	Gln	Gly	Val	Lys	Val	Thr	Tyr	Thr	Val	Gln	Tyr	Phe	Ile	Tyr	Gly
		35					40					45			
Gln	Lys	Lys	Trp	Leu	Asn	Lys	Ser	Glu	Cys	Arg	Asn	Ile	Asn	Arg	Thr
	50					55					60				
Tyr	Cys	Asp	Leu	Ser	Ala	Glu	Thr	Ser	Asp	Tyr	Glu	His	Gln	Tyr	Tyr
65					70					75					80
Ala	Lys	Val	Lys	Ala	Ile	Trp	Gly	Thr	Lys	Cys	Ser	Lys	Trp	Ala	Glu
				85					90					95	
Ser	Gly	Arg	Phe	Tyr	Pro	Phe	Leu	Glu	Thr	Gln	Ile	Gly	Pro	Pro	Glu
			100					105					110		
Val	Ala	Leu	Thr	Thr	Asp	Glu	Lys	Ser	Ile	Ser	Val	Val	Leu	Thr	Ala
		115					120					125			
Pro	Glu	Lys	Trp	Lys	Arg	Asn	Pro	Glu	Asp	Leu	Pro	Val	Ser	Met	Gln
	130					135					140				
Gln	Ile	Tyr	Ser	Asn	Leu	Lys	Tyr	Asn	Val	Ser	Val	Leu	Asn	Thr	Lys
145					150					155					160
Ser	Asn	Arg	Thr	Trp	Ser	Gln	Cys	Val	Thr	Asn	His	Thr	Leu	Val	Leu
				165					170					175	
Thr	Trp	Leu	Glu	Pro	Asn	Thr	Leu	Tyr	Cys	Val	His	Val	Glu	Ser	Phe
		180						185					190		
Val	Pro	Gly	Pro	Pro	Arg	Arg	Ala	Gln	Pro	Ser	Glu	Lys	Gln	Cys	Ala
		195					200					205			
Arg	Thr	Leu	Lys	Asp	Gln	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser
	210					215					220				
Gly	Gly	Gly	Gly	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val	Phe	Pro	Leu
225					230					235					240
Ala	Pro	Ser	Ser	Lys	Ser	Thr	Ser	Gly	Gly	Thr	Ala	Ala	Leu	Gly	Cys
				245					250					255	
Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp	Asn	Ser
		260						265					270		
Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu	Gln	Ser
	275						280				285				
Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro	Ser	Ser	Ser
	290					295					300				
Leu	Gly	Thr	Gln	Thr	Tyr	Ile	Cys	Asn	Val	Asn	His	Lys	Pro	Ser	Asn
305					310					315					320
Thr	Lys	Val	Asp	Lys	Lys	Val	Glu	Pro	Lys	Ser	Cys	Asp	Lys	Thr	His
				325					330					335	
Thr	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Glu	Ala	Glu	Gly	Ala	Pro	Ser	Val
			340					345					350		

Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr
		355					360					365			
Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu
	370					375					380				
Val	Lys	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys
385					390					395					400
Thr	Lys	Pro	Arg	Glu	Glu	Gln	Tyr	Asn	Ser	Thr	Tyr	Arg	Val	Val	Ser
			405					410						415	
Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys
			420					425					430		
Cys	Lys	Val	Ser	Asn	Lys	Ala	Leu	Pro	Ser	Ser	Ile	Glu	Lys	Thr	Ile
	435						440					445			
Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu	Pro
	450					455					460				
Pro	Ser	Arg	Asp	Glu	Leu	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu
465					470					475					480
Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn
			485					490					495		
Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val	Leu	Asp	Ser
		500						505					510		
Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu	Thr	Val	Asp	Lys	Ser	Arg
		515					520					525			
Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala	Leu
	530					535				540					
His	Asn	His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser	Leu	Ser	Pro	Gly	Lys	
545					550					555					

<210> 63
 <211> 214
 <212> PRT
 <213> Homo sapiens

<400> 63

Val	Pro	Cys	Val	Ser	Gly	Gly	Leu	Pro	Lys	Pro	Ala	Asn	Ile	Thr	Phe
1				5					10					15	
Leu	Ser	Ile	Asn	Met	Lys	Asn	Val	Leu	Gln	Trp	Thr	Pro	Pro	Glu	Gly
			20					25					30		
Leu	Gln	Gly	Val	Lys	Val	Thr	Tyr	Thr	Val	Gln	Tyr	Phe	Ile	Tyr	Gly
	35					40						45			
Gln	Lys	Lys	Trp	Leu	Asn	Lys	Ser	Glu	Cys	Arg	Asn	Ile	Asn	Arg	Thr
	50				55					60					
Tyr	Cys	Asp	Leu	Ser	Ala	Glu	Thr	Ser	Asp	Tyr	Glu	His	Gln	Tyr	Tyr
65					70					75					80

Thr	Ser	Asp	Tyr	Glu	His	Gln	Tyr	Tyr	Ala	Lys	Val	Lys	Ala	Ile	Trp
65					70					75					80
Gly	Thr	Lys	Cys	Ser	Lys	Trp	Ala	Glu	Ser	Gly	Arg	Phe	Tyr	Pro	Phe
			85					90						95	
Leu	Glu	Thr	Gln	Ile	Gly	Pro	Pro	Glu	Val	Ala	Leu	Thr	Thr	Asp	Glu
			100					105					110		
Lys	Ser	Ile	Ser	Val	Val	Leu	Thr	Ala	Pro	Glu	Lys	Trp	Lys	Arg	Asn
		115					120					125			
Pro	Glu	Asp	Leu	Pro	Val	Ser	Met	Gln	Gln	Ile	Tyr	Ser	Asn	Leu	Lys
		130				135						140			
Tyr	Asn	Val	Ser	Val	Leu	Asn	Thr	Lys	Ser	Asn	Arg	Thr	Trp	Ser	Gln
145					150					155					160
Cys	Val	Thr	Asn	His	Thr	Leu	Val	Leu	Thr	Trp	Leu	Glu	Pro	Asn	Thr
				165					170					175	
Leu	Tyr	Cys	Val	His	Val	Glu	Ser	Phe	Val	Pro	Gly	Pro	Pro	Arg	Arg
			180					185					190		
Ala	Gln	Pro	Ser	Glu	Lys	Gln	Cys	Ala	Arg	Thr	Leu	Lys	Asp	Gln	
		195					200					205			

<210> 66

<211> 150

<212> PRT

<213> Homo sapiens

<400> 66

Cys	Arg	Asn	Ile	Asn	Arg	Thr	Tyr	Cys	Asp	Leu	Ser	Ala	Glu	Thr	Ser
1				5					10					15	
Asp	Tyr	Glu	His	Gln	Tyr	Tyr	Ala	Lys	Val	Lys	Ala	Ile	Trp	Gly	Thr
			20					25					30		
Lys	Cys	Ser	Lys	Trp	Ala	Glu	Ser	Gly	Arg	Phe	Tyr	Pro	Phe	Leu	Glu
		35					40					45			
Thr	Gln	Ile	Gly	Pro	Pro	Glu	Val	Ala	Leu	Thr	Thr	Asp	Glu	Lys	Ser
		50				55					60				
Ile	Ser	Val	Val	Leu	Thr	Ala	Pro	Glu	Lys	Trp	Lys	Arg	Asn	Pro	Glu
65					70					75				80	
Asp	Leu	Pro	Val	Ser	Met	Gln	Gln	Ile	Tyr	Ser	Asn	Leu	Lys	Tyr	Asn
				85					90					95	
Val	Ser	Val	Leu	Asn	Thr	Lys	Ser	Asn	Arg	Thr	Trp	Ser	Gln	Cys	Val
			100					105					110		
Thr	Asn	His	Thr	Leu	Val	Leu	Thr	Trp	Leu	Glu	Pro	Asn	Thr	Leu	Tyr
		115					120					125			
Cys	Val	His	Val	Glu	Ser	Phe	Val	Pro	Gly	Pro	Pro	Arg	Arg	Ala	Gln
		130					135					140			

Pro Ser Glu Lys Gln Cys
145 150

<210> 67
<211> 196
<212> PRT
<213> Homo sapiens

<400> 67
Leu Pro Ala Pro Gln Asn Leu Ser Val Leu Ser Thr Asn Met Lys His
1 5 10 15
Leu Leu Met Trp Ser Pro Val Ile Ala Pro Gly Glu Thr Val Tyr Tyr
20 25 30
Ser Val Glu Tyr Gln Gly Glu Tyr Glu Ser Leu Tyr Thr Ser His Ile
35 40 45
Trp Ile Pro Ser Ser Trp Cys Ser Leu Thr Glu Gly Pro Glu Cys Asp
50 55 60
Val Thr Asp Asp Ile Thr Ala Thr Val Pro Tyr Asn Leu Arg Val Arg
65 70 75 80
Ala Thr Leu Gly Ser Gln Thr Ser Ala Trp Ser Ile Leu Lys His Pro
85 90 95
Phe Asn Arg Asn Ser Thr Ile Leu Thr Arg Pro Gly Met Glu Ile Thr
100 105 110
Lys Asp Gly Phe His Leu Val Ile Glu Leu Glu Asp Leu Gly Pro Gln
115 120 125
Phe Glu Phe Leu Val Ala Tyr Trp Arg Arg Glu Pro Gly Ala Glu Glu
130 135 140
His Val Lys Met Val Arg Ser Gly Gly Ile Pro Val His Leu Glu Thr
145 150 155 160
Met Glu Pro Gly Ala Ala Tyr Cys Val Lys Ala Gln Thr Phe Val Lys
165 170 175
Ala Ile Gly Arg Tyr Ser Ala Phe Ser Gln Thr Glu Cys Val Glu Val
180 185 190
Gln Gly Glu Ala
195

<210> 68
<211> 203
<212> PRT
<213> Homo sapiens

<400> 68

Asp	Glu	Val	Ala	Ile	Leu	Pro	Ala	Pro	Gln	Asn	Leu	Ser	Val	Leu	Ser
1				5					10					15	
Thr	Asn	Met	Lys	His	Leu	Leu	Met	Trp	Ser	Pro	Val	Ile	Ala	Pro	Gly
			20					25					30		
Glu	Thr	Val	Tyr	Tyr	Ser	Val	Glu	Tyr	Gln	Gly	Glu	Tyr	Glu	Ser	Leu
		35					40					45			
Tyr	Thr	Ser	His	Ile	Trp	Ile	Pro	Ser	Ser	Trp	Cys	Ser	Leu	Thr	Glu
	50					55					60				
Gly	Pro	Glu	Cys	Asp	Val	Thr	Asp	Asp	Ile	Thr	Ala	Thr	Val	Pro	Tyr
65					70					75					80
Asn	Leu	Arg	Val	Arg	Ala	Thr	Leu	Gly	Ser	Gln	Thr	Ser	Ala	Trp	Ser
			85						90					95	
Ile	Leu	Lys	His	Pro	Phe	Asn	Arg	Asn	Ser	Thr	Ile	Leu	Thr	Arg	Pro
			100					105					110		
Gly	Met	Glu	Ile	Pro	Lys	His	Gly	Phe	His	Leu	Val	Ile	Glu	Leu	Glu
		115					120					125			
Asp	Leu	Gly	Pro	Gln	Phe	Glu	Phe	Leu	Val	Ala	Tyr	Trp	Thr	Arg	Glu
	130					135				140					
Pro	Gly	Ala	Glu	Glu	His	Val	Lys	Met	Val	Arg	Ser	Gly	Gly	Ile	Pro
145					150					155					160
Val	His	Leu	Glu	Thr	Met	Glu	Pro	Gly	Ala	Ala	Tyr	Cys	Val	Lys	Ala
				165					170					175	
Gln	Thr	Phe	Val	Lys	Ala	Ile	Gly	Arg	Tyr	Ser	Ala	Phe	Ser	Gln	Thr
		180						185					190		
Glu	Cys	Val	Glu	Val	Gln	Gly	Glu	Ala	Ile	Pro					
		195					200								

<210> 69

<211> 196

<212> PRT

<213> Homo sapiens

<400> 69

Leu	Pro	Ala	Pro	Gln	Asn	Leu	Ser	Val	Leu	Ser	Thr	Asn	Met	Lys	His
1				5					10					15	
Leu	Leu	Met	Trp	Ser	Pro	Val	Ile	Ala	Pro	Gly	Glu	Thr	Val	Tyr	Tyr
			20					25					30		
Ser	Val	Glu	Tyr	Gln	Gly	Glu	Tyr	Glu	Ser	Leu	Tyr	Thr	Ser	His	Ile
		35					40					45			
Trp	Ile	Pro	Ser	Ser	Trp	Cys	Ser	Leu	Thr	Glu	Gly	Pro	Glu	Cys	Asp
	50					55					60				
Val	Thr	Asp	Asp	Ile	Thr	Ala	Thr	Val	Pro	Tyr	Asn	Leu	Arg	Val	Arg
65					70					75					80

<211> 135
 <212> PRT
 <213> Homo sapiens

<400> 71
 Cys Ser Leu Thr Glu Gly Pro Glu Cys Asp Val Thr Asp Asp Ile Thr
 1 5 10 15
 Ala Thr Val Pro Tyr Asn Leu Arg Val Arg Ala Thr Leu Gly Ser Gln
 20 25 30
 Thr Ser Ala Trp Ser Ile Leu Lys His Pro Phe Asn Arg Asn Ser Thr
 35 40 45
 Ile Leu Thr Arg Pro Gly Met Glu Ile Pro Lys His Gly Phe His Leu
 50 55 60
 Val Ile Glu Leu Glu Asp Leu Gly Pro Gln Phe Glu Phe Leu Val Ala
 65 70 75 80
 Tyr Trp Thr Arg Glu Pro Gly Ala Glu Glu His Val Lys Met Val Arg
 85 90 95
 Ser Gly Gly Ile Pro Val His Leu Glu Thr Met Glu Pro Gly Ala Ala
 100 105 110
 Tyr Cys Val Lys Ala Gln Thr Phe Val Lys Ala Ile Gly Arg Tyr Ser
 115 120 125
 Ala Phe Ser Gln Thr Glu Cys
 130 135

<210> 72
 <211> 15
 <212> PRT
 <213> Homo sapiens

<400> 72
 Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
 1 5 10 15